



Remedial Investigation Report

Martin Aaron Superfund Site

Camden, New Jersey

Volume 2 of 2

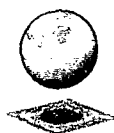
Prepared for



U.S. Environmental Protection Agency
Region II

December 2004

Prepared by



CH2MHILL

Appendix A
Field Sampling Plan

Field Sampling Plan

Remedial Investigation at the Martin Aaron, Inc. Superfund Site - Camden, New Jersey

RESPONSE ACTION CONTRACT NO. 68-W6-0036
EPA WORK ASSIGNMENT NO. 953-RICO-02MN
CH2M HILL PROJECT NO. 164453

Prepared for
U.S. Environmental Protection Agency

August 31, 2001



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1.0 Introduction

This document represents the Field Sampling Plan (FSP) for the Remedial Investigation (RI) at the Martin Aaron, Inc., Superfund Site, Camden County, New Jersey. CH2M HILL prepared this FSP in accordance with Work Assignment (WA) No. 953-RICO-02MN, under Response Action Contract (RAC) No. 68-W6-0036 with the U.S. Environmental Protection Agency (EPA) Region VI. This FSP is a companion document to the Revised Work Plan, Martin Aaron Remedial Investigation/Feasibility Study (Work Plan, prepared by CH2M HILL, April 2001).

This FSP consists of the following:

- Section 1 describes the site location, project history and presents a general overview of the RI field activities.
- Section 2 describes the objectives and approach for the sampling program, including contaminants of concern and the analytical program.
- Section 3 provides the general technical guidelines and procedures to be followed by the field personnel conducting the RI. This section also identifies the sample management, sample custody procedures and quality assurance/quality control (QA/QC) requirements for sample collection, handling and shipping.
- Section 4 provides the task-specific sampling procedures for the field personnel. This section includes the analytical objectives, sampling equipment and sampling procedures.
- Appendix A includes the Standard Operating Procedures (SOPs) for performing the sampling tasks, calibrating the equipment, and completing project forms.
- Appendix B provides examples of the project forms that will be used during the RI to document sampling data and field changes.

1.1 Site Background

Information in this section was obtained primarily from the report entitled, Draft Remedial Investigation Report (RI Report, dated June 2000), prepared by L. Robert Kimball and Associates, Inc. for the New Jersey Department of Environmental Protection (NJDEP).

1.1.1 Site Location and Description

The 2.4-acre Martin Aaron site is located at 1542 South Broadway Street in the City of Camden, Camden County, New Jersey (Figure 1-1). The property is identified as Lot 1 of Block 460 in the Camden County Tax Assessor records for the City of Camden (see Figure 1-2A).

The property is situated on relatively level land in an area of mixed industrial and residential zoned properties. The site is roughly rectangular with about 309 feet adjoining

the east line of the South Broadway Street right-of-way and about 334 feet adjoining the west line of the Sixth Street right-of-way (see Figure 1-2A). A junkyard (Lots 10 and 4) and Everett Street are located north of the Site. A food processing company (Comarco) is located south of the site (Lots 26 and 3). During summer months, the site is mostly covered by dense vegetation.

Access to the site is restricted by a chain-linked fence with a locked gate. The main structure, formerly located at the southwest portion of the Site and occupied by the Westfall Ace Drum Company (Wadco) was demolished (except for the concrete floor) by the City of Camden in November 1998. Three underground storage tanks (USTs) were formerly located in the processing area just north of the former structure, and one UST was located east of the former structure. These USTs and associated contaminated soil were removed by the NJDEP during the spring and summer of 1999. In addition, five above ground storage tanks (ASTs) associated with the former operations were removed by the NJDEP prior to the start of RI activities in 1997. The remaining concrete floor of the former building contains a number of floor drains that led to three former settling basins. According to former site operators, all three basins reportedly received drum rinseate waters from site operations, and discharged to the Camden County Municipal Utility Authority (CCMUA) sanitary sewer system (although the actual discharge for basins 2 and 3 remains unknown). According to the RI Report, Basin 1 was removed by the NJDEP during UST removal activities in 1999.

The only remaining surficial structure, formerly occupied by Rhodes Drum Company, is located in the southeast portion of the lot (see Figure 1-2A). According to the RI Report, one processing vessel and a single skimming basin (basin 4) were located near the east end of the building, and were removed by EPA in the winter of 1999. The basin received drum rinseate effluent from Rhodes Drum Company operations and discharged to the CCMUA sanitary sewer system, following pre-treatment activities. The remaining portions of the Site were historically used for drum storage, and consist of paved and unpaved surfaces; these areas are predominately open. Most or all of the stacked drums were removed by NJDEP.

An additional property of concern is located west of the Martin Aaron property, at 1535 South Broadway Street (Lot 15, Block 458), and is owned by the South Jersey Port Corporation (SJPC). The SJPC property was formerly leased to Wadco, which used it for office space and drum receiving/sorting. Three commercial buildings occupy the lot, with the remaining acreage consisting of paved and unpaved lots (see Figure 1-2B).

The site overlies the most productive source of groundwater in the Camden area, the Potomac-Raritan-Magothy (PRM) aquifer system. There is hydraulic interconnection vertically throughout the PRM aquifer system in the Camden area. Public water-supply wells tapping the PRM aquifer system within 4 miles of the site provide water to approximately 105,000 persons. The nearest of these wells is a Camden City well located approximately 1.75 miles to the east-northeast.

1.1.2 Site History

Various companies, including Martin Aaron, Inc., used the site for drum recycling for approximately 30 years. Historically, Kifferty Morocco Manufacturing Co. operated a

tannery at the site from 1887 until 1908. Castle Kid Company purchased the property in 1908 and manufactured glazed leathers until the City of Camden seized the property for tax delinquency in 1940. Benjamin Schmerling bought the property in 1940 and leased portions to H. Preston Lowden Co. for wool and hair blending and to American Chain and Cable Company-PA Lawnmower Division for manufacturing. Martin Aaron, Inc. purchased the property from Benjamin Schmerling in 1969, and operated a drum reconditioning facility until 1985 under the name Drum Service of Camden. In 1985, Martin Aaron, Inc. sold the business to a corporation jointly owned by Westfall Ace Drum Company (Wadco) and Rhodes Drum Co, two major clients of the former Drum Service of Camden. Wadco occupied the majority of the facility and ceased operations in March 1995. Rhodes Drum Co. operated at the building near the southeast corner of the site until they ceased operations in 1998. It is reported that a trucking company recently used the property for the storage and transfer of trailers and parking of automobiles. Martin Aaron, Inc. still owns the property.

Previous Investigation Findings

Numerous areas of concern have been identified at the site. The processing rooms, where drums were drained, pressure-washed with caustic solutions, and rinsed, are major areas of concern. The residues from drum contents, rinseate runoff, and steam blowdown were collected in drainage tanks and floor drains. There was a baghouse for dust collection from drum sandblasting and a paint booth where oil-based paint was applied. Various ASTs and USTs were also associated with the site processes. The outdoor paved and unpaved portions of the property were used for drum storage. Leaking roll-off containers and drums had been observed on the site. The NJDEP confirmed reports of disposal, observed buried drums of hazardous waste, and found contaminated soils at depths below the water table. Numerous sampling events conducted by the NJDEP between 1986 and 1998 identified volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and inorganic constituents in site settling basins and drums, as well as soil and groundwater. The highest concentrations of these constituents were detected near the drum processing areas where the settling basins are located.

The NJDEP RI was conducted in three phases (May to September 1997, September to November 1998, and December 1999 to March 2000) and included the following major components:

- Site reconnaissance and professional assessment/evaluation of the structural stability of buildings requiring invasive investigation;
- Geophysical investigation over the yard area of the Martin Aaron property, using magnetics, electromagnetics (EM) and ground penetrating radar (GPR);
- Soil investigation including the drilling and sampling of soil borings (with prefix "SB") on the Martin Aaron and SJPC properties, and the excavation and sampling of test trenches/pits (with prefix "TP") on the Martin Aaron property;
- Hydrogeologic investigation, including the installation, development, and sampling of 14 monitoring wells on the Martin Aaron property (designated MW-1S, -1M, -2S, -2M, -3S, -3M, -5S, -6S, -7S, -9S, -9D, -10S, -11S and -11M) and two wells on the SJPC property (designated MW-4S and MW-8S), as well as Hydropunch® sampling (note that the

shallow wells are approximately 15-25 feet in depth and the intermediate wells are approximately 55-65 feet in depth);

- Sediment investigation (with prefix "SD") which included sampling of an operating skimming basin at the Rhodes Drum facility and an abandoned settling basin inside the former Martin Aaron complex; and
- Site mapping and surveying.

The following sections (Items 1 through 3) are summarized from the RI Report.

1. Former Disposal Areas and USTs

Soil and sediment samples collected from former basins were found to contain chlorinated and aromatic VOCs and metals at concentrations above the NJDEP soil cleanup criteria. Soil and groundwater samples collected in the vicinity of the former USTs located near the former Martin Aaron building found evidence of impacts attributable to past leaks and spills. However, during the summer of 1999, the NJDEP completed a removal action of all on-site USTs and associated soils, so these impacts have likely been mitigated to a significant extent.

2. Soil Conditions

Seventeen (17) VOCs were detected in site surface and/or subsurface soils at concentrations exceeding the NJDEP soil cleanup criteria. The primary VOCs of concern include 1,2-dichloroethane, 1,2-dichloroethene (total), 1,2-dichloropropane, benzene, tetrachloroethene, toluene, trichloroethene, vinyl chloride and xylenes (total). Several chlorinated VOCs are present across the entire Martin Aaron property and extend beyond the property boundaries to the northeast, east, and possibly south. Aromatic VOCs detected at concentrations in excess of NJDEP soil cleanup criteria are generally located around the former USTs immediately north of the former Martin Aaron building, and in the area northeast of the Rhodes Drum building.

Twelve (12) SVOCs were detected in site surface and/or subsurface soil at concentrations above the NJ soil cleanup criteria. The SVOCs of concern generally include benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, bis(2-ethylhexyl)phthalate, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene and naphthalene. The majority of total SVOC results in excess of 150 mg/kg were identified on the Martin Aaron property extending beyond the property border to the northeast, and in the northern portions of the SJPC property.

Pesticide compounds of concern include aldrin, dieldrin and heptachlor found in site surface and subsurface soils. The highest pesticide concentrations were identified in soil borings located immediately north and east of the former Martin Aaron building and immediately north of the Rhodes Drum building with contamination in excess of 100 times the current NJDEP Residential Direct Contact Soil Cleanup Criteria (RDCSCC).

Total PCB concentrations in excess of the NJ soil cleanup criteria were detected at several sampling locations on the Martin Aaron property. Total PCB concentrations in samples from the SJPC property did not exceed the NJDEP soil cleanup criteria.

Metals of concern include arsenic, beryllium, cadmium, chromium, copper, lead, thallium and zinc, which were found in site and off-site surface and subsurface soils at concentrations above the NJDEP soil cleanup criteria. The horizontal extent of metals contamination possibly emanating from the site has not been fully delineated to the west, north, east, south or southeast.

3. Groundwater Conditions

The VOCs found in the shallow portion of the PRM aquifer system consist of both aromatic VOCs (benzene and xylenes) and chlorinated VOCs (tetrachloroethene, trichloroethene, and 1,2-dichloroethene). Aromatic VOCs were found at the highest levels in wells MW5S, MW7S, and MW2S while the highest level of chlorinated VOCs were detected in wells MW7S and MW5S. Only one VOC (tetrachloroethene) was found above the NJDEP groundwater quality standard (GQS) in groundwater samples from the intermediate wells.

The SVOCs found in samples from the shallow wells consisted mainly of naphthalene in MW1S and MW2S. Only one SVOC (bis[2-ethylhexyl]phthalate) was detected above the NJDEP GQS in one intermediate well (MW11M).

Metals at levels above the NJDEP GQS were detected in all monitoring wells (shallow and intermediate) during each sampling round. In general, metals at concentrations above the NJDEP GQS were more prevalent and at higher concentrations in the shallow groundwater zone. The most common analytes detected above the NJDEP GQS included aluminum, arsenic, iron, lead and manganese. Each of these analytes were found to be relatively widespread in the site surface and subsurface soils.

Pesticide and PCB contamination in the shallow groundwater zone was limited to one occurrence of aldrin in MW6S, one occurrence of dieldrin in MW11S, and one occurrence of total PCBs in well MW6S. No pesticide/PCB compounds were detected above the NJDEP GQS in samples from the intermediate wells.

4. Radioactivity

Radioactivity was tested for but not detected in groundwater samples at the site. No site soils were tested for radioactivity (personal communication with Richard Robinson, EPA Remedial Project Manager [RPM] for the Welsbach Superfund Site, May 31, 2001).

1.2 Overview of the Field Investigation

The field investigation was designed to evaluate the impact of former site operations, especially drum washing operations and residuals, on the surface and subsurface soils and on groundwater and building materials in the Rhodes Drum building. The specific investigation objectives were developed based on observations during the site visits, current site conditions, available information on past activities and suspected source areas, available soil and groundwater analytical data, and discussions with EPA. The general objectives for the field investigation are to:

- Define the nature and extent of the contamination in surface and subsurface soil and groundwater to support the assessment of potential risk to human health and the environment, and to determine whether remedial actions are necessary.

- Determine whether nonaqueous phase liquids (NAPLs) and radioactivity are present around the identified potential source areas (e.g., former settling basins, processing rooms, ASTs, USTs, and outside drum storage areas) such that remedial action alternatives can be evaluated.
- Collect site-specific geologic and hydrogeologic information necessary for the evaluation of risk and remedial action alternatives.
- Perform a structural analysis of the Rhodes Drum building to ascertain if persons or vehicles accessing the building could cause any health and safety risks. If the Rhodes Drum building is deemed safe to enter, CH2MHILL will determine if contamination exists in the building that may pose potential risks to human health and/or affect the future actions for the building.

To achieve these objectives, the collection of environmental samples and the performance of other characterization activities will be conducted under the following RI tasks:

- Mobilization (Section 4.1) - This task consists of constructing support facilities, mobilizing the equipment to the site prior to the field activities, and establishing the field office.
- Perform Site Reconnaissance (Section 4.2) - This task consists of obtaining information on the structural integrity of the Rhodes Drum building, well inventory, property boundaries and utility right-of-ways, and historical land use, to refine and verify some assumptions made during scoping of the field investigation.
- Conduct Geological Investigation (Section 4.3) - Sample data generated during this task will help define the current nature and extent of soil contamination. Lithologic and geotechnical data will be collected to evaluate contaminant fate and transport, potential site risks and remedial alternatives.
- Conduct Hydrogeological Investigation (Section 4.4) - Data generated during this task will be used to develop a conceptual model of the aquifer system, help define the nature and extent of groundwater contamination, and evaluate contaminant fate and transport, potential site risks and remedial alternatives.
- Demobilization (Section 4.8) - At the end of the field work, personnel, equipment, and supplies will be demobilized from the site.

Other field investigation-related activities associated with the RI and addressed in this document include: sample management; documentation; quality assurance requirements; reporting, and; disposal of investigation-derived waste (IDW).

2.0 Sample Network Rationale

2.1 Project Objectives

The field investigation was designed to evaluate the impact of former site operations, especially drum washing operations and residuals, on surface and subsurface soils, groundwater and building materials in the Rhodes Drum building. Based on the existing information and suspected source areas, the specific sampling and objectives for each medium are as follows:

- Surface soil samples will be collected to help determine the extent of surface soil contamination remaining at the site since the previous investigations and removal of various site structures (basins, USTs, etc.) were performed by the NJDEP and EPA.
- Subsurface soil samples will be collected to help determine the lateral and vertical extent of contamination and to help determine if the contaminants are present at levels that may pose risk to human health or the environment and require possible remedial actions.
- Surface and subsurface soil samples will also be screened and analyzed in a laboratory for the presence or absence of nonaqueous phase liquids (NAPLs).
- Surface and subsurface soil samples will only be screened in the field for the presence or absence of radioactivity. Laboratory analysis for quantity of radioactivity will not be performed.
- Groundwater samples will be collected to help determine the vertical and horizontal extent of contamination within the upper PRM aquifer system that can be attributed to the site.
- Site-specific stratigraphic, hydraulic, and chemical information will be collected to develop a conceptual model of the site, which will be used to evaluate contaminant fate and transport and potential remedial alternatives.
- A structural analysis will be performed to determine whether the integrity of the Rhodes Drum building will allow investigation operations to be undertaken. If conditions allow, a combination of wipe and chip samples will be collected to determine if residual contamination exists in the Rhodes Drum building that may affect the future actions on the building.

2.2 Project Approach

Extensive investigation has been conducted at and in the vicinity of the site by EPA and NJDEP. These data were reviewed and used to build a conceptual model of the existing site conditions. However, since the data were collected, the soil and structure removal actions have disturbed some areas. In addition, comparison of the existing data with the EPA's generic soil screening levels indicates that the limits of the soil contamination have not been defined. Some data quality deficiencies were also noted. Also, data gaps were identified

relative to groundwater flow directions and limits of contamination. Thus, additional soil and groundwater sampling have been identified as requirements to fill in data gaps. Additional sampling will further delineate the nature and extent of contamination by including additional areas for evaluation. Geochemical and engineering data will also be collected to evaluate contaminant fate and transport and potential remedial alternatives.

The sampling program defined in this FSP addresses four different types of media (surface soil, subsurface soil, groundwater) at the Martin Aaron site. Table 2-1 provides an overview of the proposed sampling approach. The rationale for selection of the sampling locations is presented in Sections 3.2.2, 3.2.3 and 3.2.9 of the Work Plan.

2.3 Analytical Program

In developing the chemical analytical program for the Martin Aaron site, the project objectives identified in Section 2.1 above and the following three elements were considered:

- Identification of target compounds and associated degradation products with respect to historic operations, chemical usage, and the results of previous investigations.
- Determining appropriate and acceptable analytical methodologies that meet the data quality objectives (DQOs), including site-specific applicable, relevant and appropriate requirements (ARARs).
- Determining an effective analytical program with appropriate QA/QC requirements such that site sampling locations and frequency are optimized.

2.3.1 Contaminants of Concern

The contaminants of concern (COCs) are defined as those most likely to contribute a risk as a result of exposure. Based on the results of the previous investigations conducted by NJDEP and EPA, the primary COCs include VOCs (primarily 1,2-dichloroethene, tetrachloroethene and trichloroethene) and metals (primarily arsenic, cadmium, mercury, selenium, barium, chromium, and lead). In addition, SVOCs and pesticides/PCBs will be analyzed to confirm the findings of the previous investigations and to determine the potential risk related to exposure to these analytes. Groundwater samples will be analyzed for various additional parameters (see Table 6 of the QAPP) to evaluate if existing aquifer conditions are conducive to natural attenuation of site-related compounds.

2.3.2 Program Objectives

Previous investigations conducted by NJDEP and EPA indicate that some VOCs and metals are present in soil and groundwater at levels greater than the NJDEP's soil and groundwater criteria. Additional information is necessary to define the full extent of the contamination and its impact on human health and the environment. The extent of soil contamination will initially be determined using the lower of the NJDEP criteria and EPA generic soil screening levels. The extent of groundwater contamination will be evaluated using the lower of the NJDEP and EPA water quality criteria.

The overall RI objectives are to: 1) characterize the nature and vertical and horizontal extent of contamination in soil and groundwater; 2) identify potential contaminant source areas;

3) assess human health and ecological risks posed by the contamination, and; 4) develop and evaluate remedial alternatives to mitigate the risks posed by contaminated media. The data generated during the RI and associated analytical program will be used to achieve these objectives.

2.3.3 Contract Laboratory Program (CLP) Analysis

Early in the week prior to the collection of samples requiring CLP analysis, EPA's Regional Sample Control Center (RSCC) will be notified of the expected date of shipment and anticipated sampling duration, approximate number of samples to be collected, the sample matrices, the required analyses, and the analytical turn-around-times. Only when results of the radioactivity screening yield negligible levels will CH2M HILL collect the samples as scheduled and ship them to the CLP laboratories identified by the RSCC. The RSCC or Contract Laboratory Analytical Services Support (CLASS) personnel, as directed, will be notified of sample arrival on the day of shipment or at the start of the next business day. CH2M HILL will use EPA's Field Operations Reporting Management System (FORMS) II Lite software program to assist with sample tracking.

Surface and subsurface soil samples (and associated QA/QC samples) will be analyzed by the assigned CLP laboratory for Target Compound List (TCL) VOCs, SVOCs, pesticides/PCBs, and Target Analyte List (TAL) metals using EPA Statement of Work (SOW) OLM04.2 (for organic target compounds) and ILM04.1 (for inorganic target compounds).

Groundwater samples (and associated QA/QC samples) collected from the monitoring wells and the municipal well will be analyzed by the assigned CLP laboratory for TCL low concentration VOCs, SVOCs, and pesticides/PCBs and TAL metals (total and dissolved) analyses using EPA SOW OLC03.2 (for organic target compounds) and ILM04.1 (for inorganic target compounds). Aqueous waste samples (from the on-site storage tank) will be analyzed for the same parameters.

The analyte lists and required reporting limits for the CLP-laboratory analyses shall be those specified in the above mentioned EPA SOWs and are presented in Tables 4 through 7 of the QAPP. The comparison of the analytical method quantitation limits and the risk-based screening levels on these tables indicate that the proposed analytical program is adequate for assessing potential risks to human and ecological receptors caused by environmental contamination.

The data package deliverables generated by the CLP laboratories will be validated by EPA using the EPA Region II data validation procedures. Re-analysis of samples because of QC problems will be performed, if needed, by the CLP laboratories as required by the EPA SOW criteria.

2.3.4 Independent Laboratory Analysis

Groundwater samples from about 72 locations (2 sampling rounds of the 22 new wells, 13 existing wells [note that three formerly installed cannot be located] and one City of Camden well) and soil samples from about 15 locations will be analyzed by an off-site laboratory(ies) for natural attenuation and geotechnical/ engineering parameters, respectively. The laboratory(ies) performing these analyses will be procured by CH2M HILL. The natural attenuation and geotechnical/engineering analyses results will be used during the RI and

Feasibility Study (FS) to assist in the evaluation of contaminant fate and transport, remedial technologies and remedial alternatives potentially applicable to the site. Table 6 in the QAPP provides a listing of these parameters, methods, and respective quantitation limits.

Upon completion of the field work, one or two composite soil samples (collected from the roll-off containers used to store soil cuttings) will be submitted for waste characterization. These analyses will include TCLP VOCs, SVOCs, pesticide/PCBs and metals. The waste soil characterization analyses will be performed at a laboratory procured by CH2M HILL.

3.0 General Field Operations

The following sections provide procedures for activities to be performed throughout the field investigation. The procedures are not task-specific. These activities include sample management, field documentation, collection of quality control samples, decontamination, disposal of investigation-derived waste (IDW), and field monitoring.

3.1 Sample Management

The procedures described in this section ensure that once representative environmental samples are obtained, they will be properly containerized, preserved, shipped, and otherwise handled in a manner that will maintain sample integrity. The use of these techniques will ensure that samples are representative of current conditions and will significantly reduce the possibility of sample contamination from external sources. Additional information is also provided in the SOPs found in Appendix A.

3.1.1 Sample Identification

A sample numbering system will be used to identify each sample, including duplicate and blank samples. Each sample (including field duplicates and blanks) to be analyzed by the CLP will be assigned a unique CLP organic or inorganic sample number by the RSCC. Samples analyzed by an independent laboratory will be assigned an EPA sample number comprised of an assigned Special Analytical Services (SAS) number (if needed) followed by a unique sequential number. The CLP or SAS number will ensure that each sample has a unique name as required by Earthsoft's EQuIS Site Management software. The EPA sample numbers will be provided by the RSCC on printed, self-adhesive labels that will be permanently affixed to the sample container, with polyethylene tape, to prevent loss of the label during shipment. The CLP or SAS sample numbers will also be transcribed onto the traffic report/chain of custody record (note that sample tags will not be used).

Each sample will also be assigned a CH2M HILL site-specific sample identifier that will contain a project identification code (identifying "MA" as the Martin Aaron site), sequential station location, and depth (for soil) or sampling event (for groundwater). The site-specific identifier will be based on the following system:

- Site - Always MA (included to differentiate from previous investigation locations)
- Station Location (see below)
The station location is the unique name of the sampling location (e.g., soil boring, monitoring well, etc.). The location name will vary depending on the reason for sampling and the numeric location number assigned to that location. The two letters at the beginning of the location name will indicate one of the following types of sample locations:
 - SB - Direct push or auger borings for locations that are being resampled from a previous RI performed by L. Robert Kimball and Associates (June, 2000).(consistent in number with borings conducted during previous RI that were also labeled "SB")

- SO - direct push or auger boring location
- MW - Monitoring Well
- CW - City Well
- DS - Waste Disposal Sample (Solid)
- DL - Waste Disposal Sample (Liquid)

The characters following the two-letter sample location type will indicate the type of sample collected, and the depth or sample event number, as appropriate. The designation "SS" will be used for surface soil samples. For subsurface sample locations, the designation "S" will be used. For groundwater samples, the designation "GW" will be used. This approach allows for the proper naming of several samples from a single location (including both soil and groundwater samples from a boring converted to a monitoring well).

- Sample Depth/Event Number- The sample depth or number will consist of a two-digit number hyphenated to the station location. For subsurface soil samples, this sequence will indicate the depth that represents the start of the sample interval in feet below ground surface (bgs). For example the sample depth designation will be "05" for the sample collected from an interval of 5 to 7.5 feet bgs. For well samples, this sequence will indicate the number of the sampling event (01 or 02). Note that depths will not be included for surface soil samples.
- QA/QC Identifier - Field QA/QC samples will be identified using the following QA/QC identifiers: D - duplicate, FB - field equipment blank, and TB - trip blank. The QA/QC identifier for duplicate samples will be placed after the sample depth/number with which the QA/QC sample is associated. For example, the duplicate of sample MA-SB2-SS will be numbered MA-SB2-SSD. The field equipment blank and trip blanks are typically not associated with an individual location, thus the two letter component of the station location will designated as a "FB" or "TB" and the samples numbered sequentially.

Several examples for numbering the environmental samples and associated QA/QC samples are provided in the table below. The following samples are included: the surface soil sample collected at the SB1 location (Example 1); a subsurface soil sample collected at 5-7 feet bgs at the SB2 location (Example 2); a subsurface soil sample collected at 5-7 feet bgs in the boring for monitoring well MW-15S (Example 3); the groundwater sample from the first round of sampling at monitoring well MW15S (Example 4); the water sample from the City's Municipal Well No. 7 during the first sampling event (Example 5), and; a trip blank and equipment blank sample (Examples 6 and 7).

Example No.	Site	Station Location	Sample Depth/Event Number	QA/QC Sample	CH2M HILL Sample Identifier	Sample with QA/QC Identifier
1	MA	SB1	0 - 0.5 ft bgs	NA	MA-SB1-SS	---
2	MA	SB2	5 - 7 ft bgs	Duplicate	MA-SB2-S-05	MA-SB2-S-05D
3	MA	MW15S	5 - 7 ft bgs	NA	MA-MW15S-S-05	---
4	MA	MW15S	01	NA	MA-MW15S-GW-01	---

Example No.	Site	Station Location	Sample Depth/Event Number	QA/QC Sample	CH2M HILL Sample Identifier	Sample with QA/QC Identifier
5	MA	CW07	01	Duplicate	MA-CW07-GW-01	MA-CW07-GW-01D
6	MA	TB02	NA	Trip blank	MA-TB02-00	---
7	MA	FB03	NA	Equipment blank	MA-FB03-00	---

3.1.2 Sample Containers

The contaminant-free sample containers (bottles) used for this sampling effort will be purchased from an approved vendor. All sample containers for CLP laboratory analysis will meet or exceed EPA requirements specified in OSWER Directive #9240-05A, Specifications and Guidance for Obtaining Contaminant-Free Sample Containers (April 1990). The containers used for the non-CLP analyses will be supplied by the CH2M HILL-subcontracted laboratory and will also meet or exceed EPA requirements specified in OSWER Directive #9240-05A. Bottles used for the sampling activity are not to contain target organic and inorganic contaminants exceeding the level specified in the above-mentioned document. Specifications for the bottles will be verified by checking the supplier's certified statement and analytical results for each bottle lot.

Equipment (field) blanks, trip blanks, etc., will be used to monitor for contamination. Corrective actions will be taken as soon as a problem is identified, and may include:

- Discontinuing the use of a specific bottle lot,
- Contacting the bottle supplier(s) for retesting the representative bottle from a suspect lot,
- Assessing decontamination procedures,
- Resampling the suspected samples, and
- Validating the data.

3.1.3 Sample Preservation and Holding Times

Table 3 of the QAPP summarizes the requirements for sample containers, preservatives and sample holding times. Sample containers will be certified by the laboratories or vendors as pre-cleaned. Chemical preservatives will be added to certain aqueous samples in accordance with the QAPP and SOP F.21 to retard degradation during storage and shipment prior to laboratory analysis. Preservatives will be prepared using reagent-grade chemicals and added to appropriate samples at the time of collection. Sample bottles received from the CH2M HILL-subcontracted laboratory will be pre-preserved by the laboratory before shipment to the field team. In addition to chemical preservatives, all samples for chemical analysis will be transported to the laboratory in temperature controlled coolers. Ice will be used to maintain the internal cooler temperature at $4^{\circ}\pm 2^{\circ}\text{C}$ during sample collection and shipment to the laboratory. A temperature blank (consisting of vials containing deionized water) will accompany each cooler to the laboratory to verify the internal cooler temperature.

Filtered groundwater may be submitted for metals analyses if turbidity levels can not be reduced during purging. Filtering will occur in the field during sample collection. Samples will be filtered through a 0.45-micron filter following procedures in the SOP F.15.

3.1.4 Sample Handling, Packaging and Shipment

The sample handling, packaging, and shipping procedures are described in Section 2.3.2 of the QAPP and SOP A.6. Each sample bottle will be sealed, labeled, put in individual plastic bags, and placed in waterproof plastic coolers for transport to the CLP or independent laboratory for analysis. Before samples are put in the cooler, any drains will be sealed with tape to prevent leaking. Sufficient ice will be placed in the cooler to maintain the internal temperature at $4^{\circ}\pm 2^{\circ}\text{C}$ while at the sampling site and during transport. The coolers will be packed with an appropriate cushioning material and absorbent materials to prevent breakage of the sample bottles and to absorb the entire volume of the liquid being shipped. All sample documentation (i.e., chain-of-custody forms) will be enclosed in a waterproof plastic bag and taped to the underside of the cooler lid. The cooler lid will be sealed and custody seals will be affixed to the opposite corners of the cooler and covered with clear plastic tape. The cooler will then be sealed shut with strapping tape in at least two locations.

Sample coolers will be shipped to arrive at the CLP or independent laboratories the morning after sampling (priority overnight) or will be sent by a courier to arrive the same day. For non-CLP samples analyzed at an independent laboratory, the laboratory will be notified of the sample shipment and the estimated date of arrival of the samples being delivered.

3.2 Field Activity Documentation and Logbook

Several procedures will be implemented by CH2M HILL to document the location, media, and parameters of samples collected in the field. These procedures include: maintaining a bound field logbook to record daily activities, including the acquisition of samples; preparing a daily report to record the individuals, equipment and supplies involved in each day's work; photographing sampling locations (to the extent practicable); completing chain-of-custody (COC) forms for all environmental samples and field QC samples; maintaining parameter data generated as a result of sampling activities on file, and; surveying sampling locations relative to the state datum, and noting on-site drawings with respect to permanent landmarks or site features. The following sections describe additional sample documentation methods to be used at the site.

3.2.1 Field Logbook and Daily Reports

A field logbook will be initiated at the start of the first on-site activity (i.e., site reconnaissance) and will be maintained to document field activities during the RI. The field logbook will consist of a bound notebook with consecutively numbered pages that cannot be removed (see SOP A.3). The logbook cover will indicate the following:

- Site name and EPA work assignment number
- Project number
- Site manager's name and mailing address
- Sequential logbook number
- Logbook start date

The field logbook is a controlled document that becomes part of the permanent site file. Because information contained in the field logbook may be admitted as evidence in cost recovery or other legal proceedings, it is important that this document be well maintained.

Daily entries will be made during periods of site activity. Entries will be recorded in ink; no erasures are permitted. Each page will be initialed. Incorrect entries will be stricken with a single line and initialed. At the beginning of each daily entry, the date, start time, weather conditions, and names of site personnel and visitors present will be recorded. At a minimum, entries in a field logbook will include the following:

- Time of arrival and departure at site
- Time and date of sample collection
- Field sample number
- Detailed description of the sampling location including sketch
- Identification of sampler
- Type of sample (e.g., groundwater, surface soil, etc.)
- Requested analytical determinations
- Sampling methodology, including distinction between grab and composite sample
- Sample preservation
- QC samples
- Field measurements (e.g., PID, pH, water level)
- Instrument calibration information
- Field observations (weather, description of sample)
- Sample pickup including chain-of-custody form number, carrier, date, and time
- Arrival and departure of site visitors
- Health and safety issues (including the level of personal protection)
- Signature and date

Sampling situations may vary widely; however, records will contain sufficient information so that the sampling activity can be reconstructed without relying on the collector's memory.

In addition, the CH2M HILL Field Team Leader (FTL) or his/her designee will complete a concise Daily Report, which will contain a summary of labor, equipment and supplies associated with each day's work, as well as a summary of the daily health and safety meeting.

3.2.2 Photographic Documentation

The FTL or his designee will selectively photograph field activities to complement descriptions of field activities in the field logbook. The following information will be recorded in the logbook when photographs are taken:

- Date and time
- Exposure number/roll number
- Location of the photograph
- Description and identification of the subject
- The initials of the person who took the photograph

Photographs will be maintained by CH2M HILL for reference during the project.

3.2.3 Sample Chain-of-Custody

For samples collected for analysis, the EPA chain-of-custody (COC) protocols will be followed, as described in the National Enforcement Investigations Center (NEIC) Policies

and Procedures, EPA-330/9-78-DDI-R, Rev. June 1985. The COC forms will be completed either manually or through the use of EPA's FORMS II Lite software program. Custody procedures are described in Section 2.3.2 of the QAPP. The protocol for filling out the COC is provided in SOP A.1.

3.3 Quality Control Sample Procedures

Each off-site laboratory identified in the QAPP has a QC program to ensure the reliability and validity of the analyses being performed. QC procedures will also be implemented for the on-site instruments: photoionization detector (PID); radioactivity meter, and; meter(s) for pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), specific conductance, and temperature measurements. The instruments will be calibrated as described in the SOPs (see Appendix A), and periodically duplicate readings from a single sample will be taken to check the reproducibility of the measurements. Field sampling precision and bias will be evaluated by collecting field duplicate and equipment blanks for laboratory analysis. The frequency of QC sample collection is summarized in Section 2.6 of the QAPP.

3.3.1 Decontamination and Drilling Water

Potable water will be used for drilling purposes and to decontaminate drill rigs and other large equipment through steam cleaning after each use. However, on sampling equipment (e.g., stainless-steel trays, split-spoons), potable water will only be used with a mixture of Alconox® (or similar detergent) during the initial stage of decontamination. To ensure that this water will not cause cross-contamination, the source water will be demonstrated analyte-free prior to any environmental sampling by submitting a sample of the water to a CH2M HILL-subcontracted laboratory for analysis of VOCs, SVOCs and metals. The criteria for analyte-free water will be determined by the detection limits of the laboratory methods used for analysis of the sample analytes.

If the potable water to be used for the above noted purposes is found to contain common laboratory contaminants (i.e., methylene chloride, toluene, acetone, 2-butanone, and phthalate esters) at concentrations less than ten times the concentration detected in a blank (i.e., trip blank, rinse blank), the water will still be considered appropriate for use for drilling and decontamination purposes.

3.3.2 Field Duplicates

Field duplicate samples will be used to measure the heterogeneity of the sample matrix and the precision of the field sampling and analytical process. Duplicate samples will be collected at a frequency of one duplicate per 20 samples of each analyte and sampled medium. For soils, field duplicate samples will be collected by placing the soil in a stainless steel bowl, mixing the sample by stirring, and then filling the individual sample and duplicate containers from the bowl. The soil fraction for VOC duplicate analysis will not be collected in this manner; instead these samples will be obtained first by collecting the original sample and then collecting the duplicate sample as close as possible to the original sample location.

The groundwater field duplicate samples will be collected by alternately filling first the sample bottle for one analysis and then the duplicate bottle for the same analysis. This procedure will be followed until the bottles for all analyses are filled. If dissolved metals

samples are collected, a separate inline filter will be used to fill the sample and duplicate containers.

The sample bottles will be labeled as described in this plan. The samples will be preserved and stored in the same manner as the field samples. The estimated number of field duplicates is presented in Table 3-1.

3.3.3 Equipment Blanks

Equipment (field) blanks will be collected and analyzed to determine whether the decontamination procedure has been adequately performed and that there is no cross-contamination of samples occurring due to the equipment or residual decontamination solutions. Equipment blanks will be collected for all matrices to be sampled. A consistent volume of demonstrated analyte-free distilled and deionized water will be poured directly into or over the decontaminated sampling equipment and then collected in sample containers. The sample containers will be labeled as described in this plan. The samples will be preserved and handled in the same manner as the groundwater samples. The frequency of collection will be at least five percent, and the estimated numbers of equipment blanks are provided in Table 3-1.

3.3.4 Trip Blanks

Trip blanks will be used to determine if any on-site atmospheric contaminants are seeping into the sample bottles, or if any cross-contamination of samples is occurring during shipment or storage of sample containers. For this project, aqueous trip blanks will be collected to accompany both aqueous and solid samples for VOC analysis.

The aqueous trip blanks will consist of demonstrated analyte-free distilled and deionized water preserved with 1:1 HCl to a pH of less than or equal to 2 standard units in 40-mL Teflon-lined septum vials. One set of trip blanks will accompany each sample cooler containing one or more samples for VOC analysis. The sample bottles will be labeled as described in this plan. The samples will be stored in the same manner as the groundwater samples. The estimated number of trip blanks is listed in Table 3-1.

3.3.5 Matrix Spike/Matrix Spike Duplicate

The matrix spike/ matrix spike duplicate (MS/MSD) samples will be used by the laboratories to assess the precision and accuracy of sample analysis. The MS/MSD samples will be fortified by the laboratories in accordance with the specifications of the analytical methods. Two extra volumes of sample are required for each combination of MS/MSD samples. Sample containers will be filled and stored in the same manner as field duplicate samples. The frequency for collection of MS/MSD samples will be at least 5 percent. The estimated numbers of MS/MSD samples are provided in Table 3-1.

3.3.6 Temperature Blanks

A temperature blank allows the laboratory receiving the shipment of samples to determine if the samples have been maintained at the proper temperature. The temperature blanks will consist of an un-preserved sample container filled with deionized water. One temperature blank will accompany each sample cooler being shipped to the laboratory.

3.4 Decontamination Procedures

Decontamination of personnel, sampling, monitoring and heavy equipment will follow NJDEP and EPA Region II guidance. The SOP D.1 presents the procedures for decontamination operations. The following sections present the procedures to be employed for the decontamination of sampling equipment and heavy machinery. Refer to Section 3.3.1 for additional detail on decontamination procedures. The potable water to be used in equipment decontamination will be either from bottles or from a public water supply system. A sample of the water from each source used will be collected at the time of its first use and sent for analysis of VOCs, SVOCs and metals.

3.4.1 Personnel Decontamination

Site personnel will perform the following decontamination procedures after completion of tasks whenever the potential for contamination exists and when leaving the contaminated area.

- Wash boots in a water/detergent solution, then rinse with water. If disposable latex booties are worn over boots in the work area, rinse with water/detergent solution, remove, and discard.
- Wash outer gloves in water/detergent solution, rinse, remove and discard.
- Remove respirator if worn.
- Remove disposable coveralls (e.g., Tyveks®) and discard.
- Remove inner gloves and discard.
- At the end of the workday, shower entire body, including hair, either at the work site or at home.
- Sanitize respirator if worn.

These procedures may need to be modified based on field conditions.

3.4.2 Non-Aqueous Sampling Equipment

All equipment (e.g., stainless-steel trowels, split-spoons, etc.) used to collect soil samples as well as the geophysical and hydraulic testing equipment, will be decontaminated after each use according to the following procedure.

1. Detergent/tap water rinse.
2. Tap water rinse
3. 10% nitric acid (ultra-pure) rinse (if sampling for metals)
4. Distilled/deionized water rinse
5. Air dry.

Augers will be decontaminated by scraping soil from equipment, steam cleaning, and air drying.

3.4.3 Aqueous Sampling Equipment

3.4.3.1 Submersible pumps

Submersible pumps will not be dedicated to each existing and newly installed monitoring well. Rather, pumps used for groundwater purging and sampling will be decontaminated before being used in another well. The non-disposable sampling equipment, including the pump, support cable and electrical wiring which contact the sample, will be decontaminated thoroughly each day before use ("Daily Decontamination") and after each well is sampled ("Between-Well Decontamination"), as described below.

Daily Decontamination

- Pre-rinse: Operate pump in a deep basin containing 8 to 10 gallons of potable water for 5 minutes and flush other equipment with potable water for 5 minutes.
- Wash: Operate pump in a deep basin containing 8 to 10 gallons of a non-phosphate detergent solution, such as Alconox, for 5 minutes and flush other equipment with fresh detergent solution for 5 minutes. Use the detergent sparingly.
- Rinse: Operate pump in a deep basin of potable water for 5 minutes and flush other equipment with potable water for 5 minutes.
- Disassemble pump.
- Wash pump parts: Place the disassembled parts of the pump into a deep basin containing 8 to 10 gallons of non-phosphate detergent solution. Scrub all pump parts with a test tube brush.
- Rinse pump parts with potable water.
- Rinse the following pump parts with distilled / deionized water: inlet screen, the shaft, the section interconnector, the motor lead assembly, and the stator housing.
- Place impeller assembly in a large glass beaker and rinse with isopropanol.
- Rinse impeller assembly with distilled / deionized water.

Between-Well Decontamination

- Pre-rinse: Operate pump in a deep basin containing 8 to 10 gallons of potable water for 5 minutes and flush other equipment with potable water for 5 minutes.
- Wash: Operate pump in a deep basin containing 8 to 10 gallons of a non-phosphate detergent solution, such as Alconox, for 5 minutes and flush other equipment with fresh detergent solution for 5 minutes. Use the detergent sparingly.
- Rinse: Operate pump in a deep basin of potable water for 5 minutes and flush other equipment with potable water for 5 minutes.
- Final Rinse: Operate pump in a deep basin of distilled / deionized water to pump out 1 to 2 gallons of this final rinse water.

3.4.3.2 Other Aqueous Sampling Equipment

Other aqueous sampling equipment will be decontaminated after each use according to the following procedure.

- Wash and scrub with a solution of low-phosphate detergent (e.g., alconox) and tap water.
- Rinse with pre-sampled and approved water.
- Rinse with 10% HNO₃ solution.
- Rinse with deionized/distilled water.
- Rinse with optima-grade methanol.
- Rinse with analyte-free distilled and deionized water (five times the volume of solvent used).
- Air dry.
- Wrap in aluminum foil.

All decontamination-derived water will be placed in containers and later transferred to a large on-site tank (e.g., "Baker Tank") for sampling and subsequent transportation/disposal at an approved facility (see Section 3.5 for Disposal of RI-Generated Wastes). Soil or sludge wastes from decontamination of the drill rig will be moved by the drilling subcontractor and placed in a tarped, sealed-gate roll-off container and labeled. The roll-off container will be staged in a centralized area. As the fieldwork nears completion, the contents of the on-site tank and roll-off container will be sampled and then disposed of accordingly.

3.4.4 Monitoring Equipment Decontamination

Monitoring equipment will be decontaminated between sampling locations (borings, wells, etc.) by the following procedure.

- Wipe all surfaces that had possible contact with contaminated materials with a paper towel dampened with a water/detergent solution.
- Wipe all surfaces with a paper towel dampened with potable water.
- Wipe with a towel dampened with analyte-free distilled and deionized water.
- Dispose of all used paper towels as specified in Section 3.5.

3.4.5 Sample Container Decontamination

The outer surface of sample containers filled in the field must be decontaminated before being packed for shipment or handled by personnel without dermal hand protection, as described below.

- Wipe container with a paper towel dampened with detergent solution after the containers have been sealed.
- Wipe container with a paper towel dampened with potable water.
- Dispose of all used paper towels as specified in Section 3.5.

3.4.6 Heavy Machinery

All heavy machinery, such as the drill rig, downhole drilling tools, and the backhoe (if used) will be decontaminated by the subcontractor after each use with hot water (see SOP D.1). The decontamination procedure will include a high-pressure hot water wash, a high-pressure hot water rinse, and air drying. If the high-pressure hot water wash is insufficient to clean the heavy equipment, the equipment will be washed with a low-phosphate detergent (e.g., alconox) and scrubbed with brushes. The equipment will then be rinsed with water. Decontamination of the heavy equipment will be performed at the decontamination pad approved for use by the CH2M HILL FTL.

All decontamination-derived water will be contained, placed in containers, and later transferred to a large on-site storage tank for sampling and subsequent transportation/disposal at an approved facility (see Section 3.5). Soil or sludge wastes from decontamination of the drill rig or backhoe will be placed in a roll-off container, as noted in Section 3.4.3 above.

3.5 Disposal of RI-Generated Wastes

The waste materials generated during a field investigation are known as investigation derived wastes (IDW). The materials that may become IDW requiring proper treatment, storage and disposal are:

- Personnel protective equipment (PPE). This includes disposable coveralls, gloves, booties, respirator canisters, etc.
- Disposable equipment (DE). This includes plastic ground and equipment covers, aluminum foil, Teflon® tubing, broken or unused sample containers, sample container boxes, tape, etc.
- Soil cuttings from drilling or hand augering.
- Groundwater obtained through well development or well purging.
- Decontamination water.

The solid and liquid IDW generated during the field work will be containerized, sampled, characterized, and disposed of following the completion of the RI fieldwork. CH2M HILL assumes that all solid wastes generated will be disposed of at a licensed municipal landfill and all liquid wastes will be disposed of at a local POTW.

A quantity of soil estimated to fill 45 drums will be generated during drilling and soil sampling activities. The subcontractor will appropriately contain the cuttings at the drilling site, and will transfer the cuttings into a tarped, labeled, sealed-gate roll-off container placed in a central staging area. One composite waste sample will be collected for each roll-off container (except for the VOC fraction, which will be collected from a discrete location within the container). The samples will be sent to a CH2M HILL-subcontracted laboratory to determine the RCRA disposal characteristics as required by NJAC 7:26G-6.2 and 40 CFR 261. It is anticipated that 1 composite soil sample will be collected and analyzed for TCLP VOCs, SVOCs, pesticides/PCBs and metals.

In addition, an estimated 30,000 gallons of purge, development, and decontamination water will be generated over the course of the field effort. The groundwater samples will be collected and analyzed after each well is developed or purged so there will be ample analytical data for all containerized water. As a precautionary measure to ensure that the water contained in the drums and/or tank is appropriate for the recommended disposal option, one water sample will be collected for every 10,000 gallons of development, purge, decontamination, and other water generated. It is anticipated that three water samples will be analyzed to determine disposal requirements. The water samples will be analyzed for TCL VOCs, SVOCs, and pesticides/PCBs and for TAL metals by a CH2M HILL-subcontracted; additional disposal characterization parameters, if required, will be analyzed. If the containerized waters are contaminated to the extent that they cannot be accepted by the POTW for treatment and disposal, then these waters will be set aside for disposal at an RCRA-licensed treatment/disposal facility.

The spent PPE, after decontamination, will be treated as debris and will be placed in a ten cubic yard dumpster along with other non-hazardous general refuse. The dumpsters will be emptied every two weeks during the course of the investigation. This waste will be disposed of at a non-hazardous facility according to 40 CFR. 268.45.

3.5.1 IDW Roll-Off Container Management and Sampling

The sealed-gate roll-off container(s) used for containerizing drill cuttings produced during the RI will be marked with an identification number. All available information concerning the roll-off container will be recorded in a field logbook, including: the type of container, total capacity estimate, and the actual volume of soils contained within the container. The personnel involved in handling and transporting containerized waste from the drilling site to the roll-off container shall work in teams containing no fewer than two people. The roll-off container will be tarped when not in active use.

The sampling of the containerized solid materials (i.e., soils) will generally be accomplished through the use of a scoop, trowel, or bucket auger. Once the roll-off container tarp is opened, a decontaminated sampling device will be inserted into the center of the material. The sample will be retrieved and immediately transferred to a sample bottle. To obtain a core sample, a stainless-steel bucket auger (or equivalent) will be used. If the sampling device is disposable, it will be left in the container. Otherwise, the device will be decontaminated thoroughly before collection of the next sample (as needed).

3.5.2 Sampling of Purge, Decontamination, and Development Water

During the course of the RI, water will be generated as a result of well purging, personnel, and equipment decontamination, and drilling activities. This water will generally be temporarily containerized at the point of generation, then transported to a central staging area where it will be transferred to a 10,000 - 20,000-gallon water tank. Once the water tank is approximately 75 percent full, a sample will be collected for disposal characterization analyses. The sampling of the water tank will be performed through the use of a disposable plastic bailer (see SOP F.3). The bailer will be lowered to the base of the tank, then retrieved. The appropriate sample containers will be filled from the bailer and preserved, as necessary.

3.6 Field Monitoring Instrumentation

Numerous monitoring instruments will be used during RI activities, including:

- Water quality meters which measure pH, specific conductance, temperature, turbidity, DO and ORP;
- PIDs;
- Combustible gas/oxygen/hydrogen sulfide monitors;
- Electric water level indicators; and
- Radioactivity meters.

Each device will be calibrated according to the manufacturer's operating manual prior to each day's use. The following table identifies the SOPs which will be used for calibration and maintenance of the field monitoring instruments.

Instrument	SOP Number
Photoionization Detector	B.1
Combustible Gas/Oxygen/Hydrogen/Sulfide Monitor	B.2
Miniature Real-Time Aerosol Monitor (MiniRam)	B.3
Multiprobe Water Quality Meter	B.4
Radiation Meter	B.6
Water Level Indicators	F.7

Calibration of the equipment will be documented on an Equipment Calibration Log (see Appendix B). During calibration, an appropriate maintenance check will be performed on each piece of equipment. If damaged or failed parts are identified during the daily maintenance check and it is determined that the damage could have an impact on the instrument's performance, the instrument will be removed from service and replaced until the identified parts are repaired or replaced.

4.0 Task Specific Site Operations

This section provides an overview of the task-specific operations that will be performed during the RI. It also references specific SOPs in Appendix A, which provide step-by-step procedures for conducting the field tasks. In the instances where SOPs are not referenced, the text of that section will act as the SOP.

4.1 Mobilization

Prior to initiating any field work, the following preparatory activities must be completed:

- Confirm that access agreements for field and sampling activities have been obtained, and notify property owners of upcoming fieldwork (if not all access agreements have been obtained, determine how, if necessary, the schedule and field program can be modified until all the agreements have been obtained)
- Mobilize and set up support facilities (field office, phone, electrical and portable toilet)
- Mobilize all field office equipment and supplies (fax and copy machines, computer, water cooler)
- Mobilize and set up IDW storage areas (Baker tanks, roll-off container)
- Identify and contact all utility companies to get underground utility clearance for all subsurface sampling locations
- Post signs that provide appropriate contacts for information and for reporting suspected criminal activities (it is assumed that information for signs to be provided by EPA)
- Extend the existing chain link fence to restrict access by trespassers and install new locks at the three existing gates
- Obtain and transport to the site and/or field office the identified field supplies (e.g., PPE, sample containers, preservatives, sample forms and other related items) and field monitoring equipment
- Obtain proper groundwater monitoring well and soil boring permits from drilling subcontractors
- Mobilize direct-push (e.g., Geoprobe®) and drilling contractor and supplies and materials
- Confirm that analyses are scheduled through the EPA CLP and the CH2M HILL-subcontracted independent laboratories
- Confirm that all field equipment is in proper working order and has received appropriate quality control checks

- Purchase certified analyte-free trip blank and field equipment blank water and preservatives
- Locate the Federal Express office nearest the site that will accept sample coolers, and note its hours of operation (also determine whether the office will provide sample pick-up service)
- Clear vegetation from staging and sampling areas

During mobilization activities, the FTL will perform a walk-through inspection of the site and inspect and generate field sampling maps (updating them if needed). The level of health and safety protection during the mobilization activities will be Level D.

4.2 Site Reconnaissance

Site reconnaissance will be conducted prior to the start of the sampling activities. The field staff will perform the following activities.

- Inspect the Rhodes Drum building to evaluate and propose safety measures necessary to protect against possible structural deficiencies of the building. A brief report of findings, including photographs, will be prepared and submitted to EPA.
- Visually survey the Rhodes Drum building to identify potential asbestos-containing materials.
- Obtain from the City of Camden and the NJDEP an inventory of well records (including well logs, pumping rate and schedule) that exist within a one-mile radius of the site, and field-verify the well locations (to the extent practicable).
- Locate and inspect existing on-site and off-site monitoring wells. The inspection will include visual observations of well condition and verification of well construction (e.g., depth of well). All observations and measurements will be documented in the field logbook.
- Obtain a legal description, title report and ownership plat maps from the City of Camden.
- Acquire existing maps of historical land use in the vicinity of the site. This will include a review of historical maps and aerial photographs from the NJDEP Aerial Photo and Map Library in Trenton, NJ. This review will include trying to identify channels, ditches, or waterways that may have existed at the site. Also, a review will be conducted of NJDEP files for the metals recycling facility (east of the site) and the gasoline station (northwest of the site).
- A survey subcontractor will verify locations of property boundaries, utility right-of-ways, well locations and measurement points (including prior sample locations), establish a site benchmark (for horizontal and vertical control), and generate additional topographic information for off-site sampling locations.

- Meeting with the City of Camden personnel to identify which drains, if any, can be used to discharge wastewater (i.e., decontamination, purge and development water) temporarily stored in the on-site storage tank during the field activities.

4.3 Geological Investigations

A geological investigation will be conducted to collect soil data that will be used to:

- Define the nature and extent of contamination from VOCs, SVOCs, metals, and pesticides/PCBs in the surface and subsurface soils, and;
- Characterize the lithologic and geotechnical properties of site-specific soils (e.g., bulk density, porosity, total organic carbon, etc.) that will be used in the evaluation of contaminant fate and transport, the analysis of risk, and the remedial alternative evaluation.

These objectives will be accomplished by collecting surface and subsurface soil from the unsaturated zone. The rationale for the sampling locations and selection of analytical parameters is based on the site history and results from previous investigations conducted by NJDEP and EPA. The specific objectives, approximate locations, estimated number of samples, and analyses are presented in Table 2-1. The preliminary soil sample locations are shown on Figure 4-1.

Prior to the start of sampling, a radiation detector (e.g., Geiger-Muller [GM]) will be used to survey the site for elevated radiation levels. This will be done to evaluate whether soils from the Welsbach site (or similar fill material) were disposed on-site. The soils from the Welsbach site are known to contain high levels of thorium. If the initial radiation survey indicates that radiation levels are above levels generally recognized as safe, then all sampling will cease, EPA will be notified immediately, and discussions will be held as to the proper means of moving forward with the RI.

Surface and subsurface soil samples will be collected from about 72 locations and will be obtained using direct-push methods (e.g., Geoprobe®) or an equivalent method (e.g., split-spoon samplers). The sample locations were selected based on the existing analytical results for four VOCs (tetrachloroethene, trichloroethene, 1,2-dichloroethene and benzene), in discussions with EPA on June 29 and July 26, and are distributed as follows (the soil boring designations are listed; see Figure 4-1):

- ***Martin Aaron Property*** – 23 locations on Martin Aaron property (identified as 20 proposed re-sample locations [SB] 02, 04, 06, 08, 09, 11, 13, 14, 31, 42, 47, 56, 60, 112, 118, 120, 122, 124, 130, and 131) and three new sample locations SO201, 203 and 214).
- ***South Jersey Port Company Property (SJPC)*** – 15 locations on the SJPC property (identified as 12 proposed re-sample locations [SB] 29, 62, 66, 67, 68, 69, 71, 72, 75, 77, 78, and 79 and three new sample locations SO 301, 302 and 303).
- ***Junkyard Property (north of Martin Aaron Site)*** – 4 new sample locations (identified as SO 210, 211, 212 and 213).

- *City of Camden Road Rights-of-Way* – 10 locations consisting of two new sample locations along Everett Street (SO208 and 209), five re-sample locations (SB96, 97, 98, 106 and 108) and one new sample location (SO207) along 6th Street, and two re-sample locations along Broadway (SB81 and 82).
- *Comarco Building area* – 5 locations near the Comarco Building, south of the Martin Aaron property, (consisting of one re-sample location [SB85] and four new sample locations [SO202, 204, 205 and 206]).
- *Jackson street properties – new sample locations {SO} 401, 402, 403, and 404.*
- *Monitoring Well Locations* – 11 locations (see Section 4.4, subsurface samples only to be collected from the borings for shallow wells MW-12S through MW22S).

During probe or drilling advancement, the soils will be screened using a photoionization detector (PID). It is assumed that two samples (one at/near the surface [designated surface soil sample] and one at the soil/water interface or interval of highest PID reading [designated subsurface soil sample]) will be collected at each location. The soil sampling procedures are provided in the following SOPs:

- F.12 - Surface and Subsurface Soil Sampling;
- F.16 - Direct-Push Soil Sample Collection; and
- F.20 - Collection of Soil Samples for VOC Analysis Using EnCore™ Samplers.

Activities related to this task are described in additional detail in Sections 4.3.1 through 4.3.5.

4.3.1 Utility Clearance

Prior to the geological investigation, each sampling location will be thoroughly investigated and field-checked to determine whether buried lines, underground storage tanks, or other subsurface hazards may be present at each specific location. The pre-drilling utility clearances will be performed using the following steps.

- New Jersey One-Call Center will be contacted and primary utility lines will be marked (this will be conducted under the mobilization task – see Section 4.1).
- A subcontractor who specializes in underground utility identification will mark out underground utilities either on a site-wide basis or within a 10-foot radius around the proposed geologic investigation points (this will be conducted under the geophysical investigation task – see Section 4.6).
- If needed, drilling sites will be refined to avoid these known utility lines and buried objects.
- A magnetometer or metal detector will be used by the drilling subcontractor as a final check to verify that metallic objects/lines are not located under any of the drilling sites.

4.3.2 Drilling Notes and Stratigraphic Characterization

Prior to drilling at each location, the field geologist (or geotechnical engineer) will be responsible for recording in the field logbook the location of the new hole (written text and

rough sketch of location, including points of reference and landmark), date, time, weather conditions, drilling crew present, drilling equipment, and CH2M HILL geologist(s) present. The CH2M HILL geologist supervising the drilling crew will be responsible for making sure that the borehole is located properly; the area has been cleared of buried utilities and hazards; the personnel present have been advised of potential hazards and safety concerns, and; all sampling equipment, utensils, and sample containers necessary to perform the drilling and subsurface sampling are present, in working order, and are decontaminated prior to the start of drilling activities.

During the drilling activity, the CH2M HILL geologist will describe and record all drilling activities, environmental measurements, samples collected, and other information in the field logbook. In addition, a drilling log form sheet will be filled out as drilling progresses. Information on the boring log sheet shall include the location, borehole number, date(s) and times of drilling, personnel and equipment present, down time, samples collected, measurements taken, and any other significant observations or information that might be necessary to document field activities and drilling conditions. The format of the Soil Boring Log is presented in Appendix B (to the extent practicable, the boring log format will be compatible with EquiS).

When a hollow-stem auger (HSA) rig is used, the field geologist will use soil cuttings brought up to the ground surface by the auger and soil cores from split spoon samplers to describe the geologic strata on the boring logs. The lithologic descriptions of unconsolidated materials shall be described in accordance with the American Society for Testing and Materials (ASTM) Method D-2488-90 (Standard Practice for Description and Identification of Soils). The descriptive information to be recorded in the field shall include: identification of the predominant particle size and range of sizes, a description of the grading and sorting of particles, Munsell color, moisture content, plasticity of fine-grained soils, cementation (weak, moderate, or strong), etc. The Unified Soil Classification System (USCS) will be used to classify each soil stratum. Additional information to be recorded during drilling will include the depth to the water table, depths of all samples collected, presence of organic materials, presence of fractures or voids, odors (if encountered), and PID readings. All soil borings will be located at the time of drilling by driving a steel pin (with fluorescent flagging) into the ground. As needed, fluorescent paint will be sprayed around the pin so that it can be relocated during elevation surveying activities.

4.3.3 Surface Soil Sampling

The surface soil samples will be collected at approximately 90 locations (all locations except the monitoring well locations). Samples will be collected from the upper six inches of soil using decontaminated sampling equipment, which may consist of a direct-push (e.g., Geoprobe®) rig, a hand auger, and/or an equivalent method (e.g., split-spoon samplers). Only soil, small gravel, and dust (not large pieces of gravel and/or asphalt, concrete or matted roots) will be sampled. The soil cores will be logged and examined for visual indications of contamination and screened using a PID. All observations and field measurements will be recorded in the field logbook. In order to generate data consistent with the previous investigations, the sample fractions to be analyzed for metals, SVOCs, and pesticides/PCBs will be collected from the uppermost sample horizon, and the sample fractions to be analyzed for VOCs will be collected just below the upper horizon (all within

the uppermost six inches). Upon collecting soil from the uppermost horizon, the soil will be placed in a bowl or pan, where it will be thoroughly homogenized before filling the appropriate sample containers. It is very important that the non-VOC soil fraction be mixed as thoroughly as possible to ensure that the sample is representative of the entire interval. The soil fraction to be analyzed for VOCs will be collected using EnCore™ samplers for low level VOC analysis (see SOP F.20).

The surface soil samples will be analyzed by an EPA Region II CLP laboratory for TCL VOCs, SVOCs, and pesticides/PCBs, and for TAL metals.

4.3.4 Subsurface Soil Sampling

The subsurface soil samples will be collected by two methods. Samples will be collected by the direct-push method from the same 90 probe holes used for the surface soil samples (see Section 4.3.3). Also, subsurface samples will be collected from 11 boreholes advanced for installation of the shallow monitoring wells.

4.3.4.1 Unsaturated Soils

Subsurface, unsaturated soil samples will be collected during probehole advancement (at 90 locations) and during drilling of the boreholes for the 11 shallow monitoring wells. The soils will be described and field screened using a PID from below the depth of any surface soil sampling to the top of the water table (about 12 feet bgs) using direct-push techniques (e.g., Geoprobe®) or equivalent (e.g., split-spoon sampling using a drill rig). During field screening of the soil column, each 1-foot soil interval with an elevated organic vapor reading will be containerized and stored at 4°C until the water table is encountered. The subsurface soil samples submitted for laboratory analysis will be those within the unsaturated zone with the highest organic vapor reading, or from the soil/water interface. The sample fraction to be analyzed for VOCs will be collected from the soil core using an EnCore™ sampler; the remaining sample fraction will be homogenized and used for the other analyses. The subsurface, unsaturated soil samples will be analyzed by an EPA Region II CLP laboratory for TCL VOCs, SVOCs, and pesticides/PCBs, and for TAL metals.

4.3.4.2 Saturated Soils

The subsurface, saturated soil samples will be collected during drilling of several shallow, intermediate and deep monitoring wells (see Section 4.4.1). The soils from below the water table will be collected continuously using split-spoon samplers, described, and field screened to the desired depth for well installation. All observations and field measurements will be documented in the field logbook. Fifteen (15) samples of saturated soils will be collected to gather lithologic and geotechnical information only. Four soils samples will be collected from the shallow zone (about 15 to 20 feet bgs) among the 11 shallow monitoring well borings. Seven samples (one per boring) will be collected from the base of the upper aquifer (55 to 65 feet bgs) among the eight intermediate monitoring well borings. Finally, four samples will be collected from the clay layer underlying the upper aquifer (greater than 65 feet bgs). All samples will be analyzed for total organic carbon (TOC), porosity, moisture content, pH, grain size and bulk density (soil samples from below the water table will not be analyzed for CLP parameters).

4.3.4.3 Screening for the Presence of DNAPLs

Since there may be high concentrations of trichloroethene, tetrachloroethene, or other organic compounds in the subsurface soils, the soil cores will be screened for the presence of DNAPL. The Field Geologist will carefully observe the soil cores to identify where subsurface soils are contaminated with organic compounds, using visual observations (i.e., discolored soil or iridescent sheen, oil droplets, etc.), organic odor, or PID readings to screen for the presence of DNAPL.

4.3.5 Borehole Abandonment

Following the completion of sampling, abandoned monitoring wells and completed soil borings will be backfilled with native soil if their depth does not exceed 25 feet bgs. If the completed borings and abandoned monitoring wells have been advanced deeper than 25 ft bgs, they will be sealed in accordance with the NJDEP Procedures for Drilling and Sealing Borings/Probe Holes (SOP F.13), as follows:

1. A mixture in the ratio of 94 pounds of Portland Type II neat cement, to 6-8 pounds bentonite, to 8-10 gallons of water will be pumped into the boring, under pressure, through a tremie pipe that discharges at the bottom of the boring. The tremie pipe will be retrieved while pumping the sealing material through it.
2. The sealing material will be pumped into the boring until all of the water in the boring has been displaced, and the sealing material overflowing the boring is of the same density and consistency as the sealing material being pumped into the boring. The amount of sealing material added to the borehole will be recorded in the geologist's logbook.
3. The drilling subcontractor will complete an abandonment form (Form DWR-020) to the New Jersey Bureau of Water Allocation for each of the sealed borings.

4.4 Hydrogeological Investigation

The objectives of the hydrogeological investigation are to:

- Establish the site-specific horizontal and vertical groundwater gradients and groundwater velocity within the upper aquifer system (water table and above the confining layer separating the upper and middle aquifers);
- Evaluate the quality (metal and organic levels) of groundwater flowing onto the site from adjacent properties (i.e., site background);
- Define the horizontal and vertical limits of groundwater potentially impacted by site activities;
- Determine if the contamination from the site may potentially impact the nearest City of Camden wells (located 1.75 miles from the site);
- Collect site-specific hydrogeological data to evaluate contaminant fate and transport.

These objectives will be accomplished by installing additional on-site and off-site monitoring wells in the upper and middle aquifers, measuring water levels, performing in-situ hydraulic conductivity testing, and collecting and analyzing groundwater samples.

4.4.1 Monitoring Well Installation

A total of 22 groundwater monitoring wells will be installed at 11 locations to evaluate the aquifer system and monitor groundwater quality. The locations include nine on-site locations and two off-site locations (see Figures 4-2A and 4-2B). The 22 monitoring wells will consist of 11 "shallow" wells completed near the top of the upper aquifer, eight "intermediate" wells completed at the base of the upper aquifer, and three "deep" wells completed in the middle aquifer. The total will include: three 3-well nests (shallow, intermediate and deep wells, tentatively identified as MW-14S/MW-14M/MW-14D, MW-18S/MW-18M/MW-18D, and MW-20S/MW-20M/MW-20D), five 2-well nests (shallow and intermediate wells, tentatively identified as MW-12S/MW-12M, MW-13S/MW-13M, MW-15S/MW-15M, MW-17S/MW-17M, MW-19S/MW-19M) and 3 individual shallow wells (tentatively identified as MW-16S, MW-21S and MW-22S). The rationale for the additional monitoring well locations is based on the site history and results from previous investigations conducted by the NJDEP and EPA. The specific objectives and approximate locations are described in the QAPP. The preliminary monitoring well locations are shown on Figures 4-2A and 4-2B. The well installation and development procedures are described in SOPs F.1 and F.2, respectively.

Prior to the drilling of the wells, all locations will be thoroughly investigated and field-checked to determine whether buried lines, underground storage tanks, or other subsurface hazards may be present at each specific location. The pre-drilling utility clearances will be performed as described under Section 4.3.1 (Utility Clearance).

4.4.1.1 Well Drilling

The 11 shallow and 8 intermediate wells will be installed in the upper aquifer. The shallow well will be screened across the water table (to a depth of about 15 to 20 feet bgs), and the intermediate wells will be screened at the base of the upper aquifer (to a depth of about 55 to 65 feet bgs). The borings for the upper aquifer wells will be advanced using HSA methods. Soil samples will be collected continuously to the target depth of the well, using split-spoon samplers. The samples will be logged and field screened using a PID. The soil descriptions, field measurements, samples collected, and other observations will be recorded in the field logbook. In addition, the field geologist will complete a drilling log form as the drilling progresses.

The three deep wells will be installed below the confining unit separating the upper and middle aquifers (to a depth of greater than 65 feet). The deep wells will be installed following completion of the adjacent intermediate wells such that the depth to the confining unit is known. The deep wells will be "double-cased" to prevent the potential for cross-contamination between the upper and middle aquifers. The uppermost zone (from ground surface to the confining layer) will be blind drilled (i.e., no sampling) using HSA or air rotary methods. The borehole diameter through the upper zone will be 10 inches, to allow installation of a six-inch diameter steel isolation casing. Prior to installing the casing, a 1-foot bentonite seal will be placed in the annulus at the bottom of the borehole and then

hydrated with potable water. The 6-inch diameter steel casing will be lowered inside the augers (or open borehole), seated into the clay layer and grouted. Then, drilling of the deep wells will be conducted through the permanent casing to a depth of approximately 15 feet below the bottom of the confining clay layer. A 2-inch monitoring well will then be installed such that the entire sensing zone (i.e., well screen and filter pack) is below the confining clay layer and within the middle aquifer. The soil cuttings will be logged and observations will be recorded in the field logbook, and a drilling log form will be completed.

4.4.1.2 Well Construction

The shallow, intermediate and deep wells will be constructed of 2-inch-diameter PVC casing and well screen materials. The casings and screens will have threaded, flush joints. The well screens will be 10 feet long and have a slot size opening of 0.01 inches (10-slot screen). All casings, screens, and fittings will be factory sealed or will be cleaned with high-pressure hot water before installation.

The well screens will be filter-packed with appropriately sized, graded, washed, and well-rounded siliceous sand. The filter pack will extend six inches below the base of the screen to a minimum of two feet above the screen. Two feet of clean fine sand (if depth permits) and a two-foot bentonite seal will be placed above the filter pack to inhibit migration of annular seal material into the filter pack. The depth of the filter pack will be determined using a weighted tape, rigid rod, or a small-diameter rigid tube. The remaining annular space will be filled to grade with a bentonite cement slurry grout mixture by tremie method. After allowing the grout to settle overnight, additional grout will be added to maintain grade.

Each well will be capped by a waterproof, keyed-alike locking cap. A protective-steel, flush-mounted "road box" outer casing will be installed around the riser pipe at the ground surface. The protective outer casing will be at least 12 inches in diameter, and will be set into a cement collar after the monitoring well grout seal has set up. A layer of sand (approximately six inches to one foot in thickness) will be placed at the base of the road box to allow for drainage of any water that does enter. The cement collar will be sloped away from the well to permit drainage. The well identification number will be steel-stamped onto the outer protective steel casing. The format of the Well Completion Diagram is in Appendix B.

4.4.1.3 Well Development

The new and existing monitoring wells will be developed by pumping the groundwater with an electric-powered submersible pump. Polyethylene tubing, connected to the pump with stainless-steel clamps, will be used. New tubing will be used for each well and will be disposed of after use. The submersible pump intake will be placed below the water level and lowered as the water level drops. The pump will be surged to facilitate the removal of fine sediments at the bottom of the well. Water will not be added to any well to aid in development, nor will any type of airlift technique be used. Measurements of water quality parameters will be recorded every three to five minutes (or at least twice during each consecutive well volume) during well development. The water quality parameters will include: pH, temperature, specific conductance, DO, ORP, and turbidity. The development water will be containerized in a portable polyethylene tank and transported to a central storage area. The containerized water will then be pumped to a larger bulk storage tank.

along with other IDW water. The water in the storage tank will be sampled and disposed of at the local POTW (pending approval).

Well development will begin no sooner than 48 hours, but no later than seven days, after the concrete pads are in place. The development will proceed until either of the following conditions is met (as long as the sediment thickness remaining in the well is less than 5 percent of the screen length):

1. At least three well volumes (including the saturated filter material in the annulus) plus the volume of water added during the drilling process (if any) are removed from the well, and stabilization of water quality parameters has occurred (defined as less than 10 percent variance between the removal of two successive well volumes).
2. Five well volumes are purged, regardless of stabilization of the water quality parameters.

Development of the new wells will be conducted in accordance with SOP F.2. The well development data will be recorded on the Well Development Log in Appendix B.

4.4.1.4 Well Surveying

Following installation, all wells will be surveyed by a New Jersey-licensed surveyor for horizontal location and elevations. The vertical elevations will be surveyed to the nearest 0.01 foot, and the horizontal locations will be surveyed to within ± 0.1 feet. The elevations will be referenced to the National Geodetic Vertical Datum (NGVD), and will be taken from a designated point on the riser pipe (chisel mark). The surveyor will complete the NJDEP Groundwater Monitoring Well Certification - Well Form B (included in Attachment B).

4.4.2 Groundwater Sampling

Upon completion and development, the wells will be sampled. Samples will be collected from the new wells (11 shallow, 8 intermediate and 3 deep), existing wells (9 shallow and 4 intermediate), and the City of Camden Well No. 7 (assuming access can be obtained). Two groundwater sampling events will be conducted as part of this RI.

4.4.2.1 Low-Flow Sampling of Monitoring Wells

Prior to purging and sampling, groundwater levels will be measured at each well to verify general groundwater flow directions (see Section 4.4.3 for additional details). The low-flow sampling method outlined in SOP F.4 will be used for purging and sampling the wells. Low-flow sampling minimizes the disturbance of sediment on the bottom or sides of the well, minimizes the concentration of suspended sediment in resulting well samples, allows the water quality parameters in the pump discharge water to stabilize more quickly, and reduces the quantity of purge water (IDW) to be containerized, treated and disposed. The low-flow sampling will be performed by lowering the pump to the desired depth in the well. For wells with screens longer than 10 feet, the pump may be positioned at any of the following: the portion of the screen of interest based on the results of logging the borehole; the most transmissive portion of the screened materials, or; as a default, the middle of the screened interval. The pump intake will be kept at least two feet above the bottom of the well to prevent disturbance and resuspension of any sediment or NAPL present at the

bottom of the well. The field geologist will record the depth to which the pump is lowered and the rationale used in selecting this depth.

The discharge water from the pump will be monitored inline for pH, temperature, turbidity, ORP, DO, and specific conductance. Pumping will be continued until the field parameters stabilize, as described in SOP F.4. Once the indicator parameters stabilize, the groundwater sample will be collected as described in SOP F.4. The appropriate sample bottles will be filled and preserved, as needed. If the stabilized turbidity levels exceed 10 NTUs a field-filtered sample will also be collected for metals analysis. The sampling details will be recorded on the Low Flow Sampling Log in Appendix B.

All discharge water from the pump will be transported to a temporary storage tank until it can be hauled off-site for treatment and disposal at a local POTW.

4.4.2.2 Sampling of the Municipal Well

The City of Camden's Well No. 7 will be sampled during the same time period as the monitoring wells, assuming that access can be obtained. The municipal well will be purged before a sample is collected (see SOP F.6 in Appendix A) to ensure that water representative of the formation is sampled and not the water in the well casing or pipes. The amount of purging necessary will be dependent on the operating status of the well (i.e., if it is currently in operation).

The port used to sample the well will be selected upon discussion with City personnel. The sample will be collected by opening the sample port valve, letting water purge from the valve area, and then filling the sample bottles.

4.4.2.3 Sampling Analyses

All groundwater samples will be analyzed for TCL VOCs, SVOCs, pesticides/PCBs, and for TAL unfiltered (total) metals. If turbidity levels after purging are greater than 10 NTUs, a filtered fraction for dissolved (total) metals analysis will also be collected. In addition, all monitoring well samples will be submitted for analysis of "natural attenuation parameters" (parameters selected from Table 2.3 of EPA's Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater, 1998). The natural attenuation parameters include: alkalinity, total suspended solids (TSS), total dissolved solids (TDS), hardness, iron (total and dissolved), ferrous iron, arsenic (dissolved), ammonia, total Kjeldahl nitrogen (TKN), nitrate, nitrite, calcium, potassium, manganese, phosphorus (total), sodium, chloride, sulfate, sulfide, methane, ethane, ethene, TOC, biological oxygen demand (BOD), chemical oxygen demand (COD), and carbon dioxide.

Also, it is assumed that one water sample, derived from the decontamination of equipment, well development and sampling, will be collected from the bulk water storage tank. The fate of the containerized water will be decided based on the sampling results and discussions with the City of Camden and EPA. The disposal of the wastewater will be conducted under Section 4.7.

4.4.2.4 Groundwater Field Parameter Measurements

The field parameters of pH, temperature, specific conductance, DO, ORP and turbidity will be measured while conducting the groundwater sampling (as described in Section 4.4.2.1 above). The procedures to perform those field analyses are described in SOP B.4.

4.4.3 Water Level Measurements

The water-level measurements will be collected synoptically to verify local groundwater flow directions and gradients. Water levels will be measured in all existing and new monitoring wells, the City of Camden wells (where accessible), and up to 4 monitoring wells on the Welsbach site (as requested by EPA). In addition, stage information from the Delaware River will be obtained from local sources (e.g., NOAA). It is assumed that the water level data will be collected during the two sampling events.

The depths-to-water readings will be obtained using a conductivity-based electronic water level measuring device, as described in SOP F.7. The electronic device emits an audible signal when the probe touches the water. The depth measurement will be made from a designated point on the innermost riser pipe.

In addition, the total depth will be measured in all monitoring wells. The well depth will be used to calculate the required purge volumes and assess the amount of solids present in the wells.

4.4.4 Tidal Influence Study

A tidal influence study will be conducted using the wells installed during the RI. The study will consist of installing pressure transducers and data loggers in 5 shallow wells, 5 intermediate wells, and 2 deep wells at the site for a 48-hour period, monitoring a downgradient sewer line, and obtaining stage data from the Delaware River and pumping well data from the City of Camden's Well No. 7 over the same period. The proposed locations for testing include the following:

- Shallow and intermediate wells in the two-well nest installed near SB80 (MW-17S/M)
- Shallow and intermediate wells in the two-well nest installed near SB106 (MW-19S/M)
- Shallow and intermediate wells in the two-well nest installed as replacement for MW7 (MW-15S/M)
- Shallow, intermediate and deep wells in the three-well nest installed as a replacement for MW3 (MW-14S/M/D)
- Shallow, intermediate and deep wells in the three-well nest south of the Comarco Building (MW-20S.M/D)

The data will be evaluated to determine if the water levels beneath the site are influenced by any off-site sources (i.e., pumping wells, tidal fluctuations in the Delaware River).

4.4.5 In-situ Hydraulic Testing

In-situ hydraulic testing (i.e., slug testing) will be performed at all new and existing well locations to determine the site-specific hydraulic conductivity of the aquifer. The tests will consist of monitoring the aquifer response to a sudden change in hydraulic head (increasing

and decreasing). The head change at each well will be induced by the emplacement of a physical "slug" into the water column (falling head test), and the removal of a physical "slug" from the water column (rising head test). Pressure transducers and data loggers will be used to measure the changes in water level over time during the testing.

Prior to testing the wells, the water level will be measured to determine if the water level is above or within the screened interval of the well. If the water level is within or above the screened interval, a falling-head slug test followed by a rising head test will be performed. If the water level is below the screened interval, then two rising-head slug tests will be performed. The test procedures are described in SOP F.10.

The slug test procedures generally consist of:

- Measure the static water level in the well using an electronic water level indicator
- Lower the pressure transducer with attached cable to within about 2 feet of the bottom of the well
- Activate the data logger and check to see if the data logger/transducer are working correctly
- Start the data logger and rapidly insert the slug completely below the static water level for falling head tests (or remove the slug completely for a rising head test, following stabilization of the water level from insertion of the slug), so that the change in head is essentially instantaneous
- Intermittently measure the water levels with a water level indicator noting the time of measurement in reference to the start of the test (this will serve as a backup to the data logger)
- Monitor water levels until the levels have stabilized (i.e., water levels are within ± 0.2 feet of the static reference level, or within 80 percent of static level)
- Perform at least two tests at each location (as described above)
- Decontaminate the water level indicator and transducers by wiping first with methanol and then deionized water to prevent cross-contamination between wells
- Decontaminate the slug between successive wells using standard decontamination procedures

It should be noted that the displacement of water could also be performed using an inert gas (e.g., nitrogen). The use of an inert gas to depress the static water level in a well (rising head test) is limited to wells in which a sufficient volume of water can be displaced from the riser pipe without lowering the water level below the top of the screen. This method is preferred because contact between potentially contaminated well water and testing equipment is minimized. The use of a gas displacement method will be determined based on the water level data collected. The procedures for performing the nitrogen depression method are also presented in SOP F.10.

4.5 Conduct Geophysical Investigation

A detailed geophysical investigation is not proposed for this field effort, with the exception of surface geophysics for the sole purpose of utility clearance on private property (New Jersey One-Call will not clear utilities on private property unless there are major lines). A subcontractor who specializes in underground-utility identification will mark out underground utilities within a 10-foot radius around proposed geologic investigation points. It is anticipated that the subcontractor will use one or more geophysical methods including ground penetrating radar (GPR) and electromagnetics (EM).

4.6 Ecological Investigation

A CH2M HILL ecologist will conduct a site visit. The following activities will be performed to support the ecological investigation:

- Qualitatively observe the existing terrestrial habitats and wildlife present on the site
- Request identification of rare, threatened and endangered species in the site environs from the State of New Jersey and the U.S. Fish and Wildlife Service

4.7 IDW Sampling

This task will include characterizing and disposing of the IDW in accordance with local, state and federal regulations. The following types of IDW are anticipated from the investigation activities:

- Spent PPE, including clothing and sampling supplies
- Soil cuttings (containerized)
- Wastewater from well development, purging and decontamination activities (containerized)
- Sediment from the on-site wastewater storage tank

The spent PPE, after decontamination, will be treated as debris and will be placed in a ten cubic yard dumpster along with other Type 10 and 13 trash. The dumpsters will be emptied regularly (approximately every two weeks) during the course of the investigation. This waste will be disposed of at a non-hazardous facility according to 40 CFR. 268.45.

The soil cuttings generated from drilling and soil sampling during the field work will be placed into a tarped, labeled, sealed-gate roll-off container. One composite waste sample will be collected from each roll-off container. The sample(s) will be sent to a CH2M HILL-subcontracted laboratory to determine the RCRA disposal characteristics as required by NJAC 7:26G-6.2 and 40 CFR 261. It is anticipated that one composite soil samples will be collected and analyzed for TCLP VOCs, SVOCs, pesticide/PCBs, and metals.

In addition, an estimated 30,000 gallons of purge, development, and decontamination water will be generated over the course of the investigation. One water sample will collected for every 10,000 gallons of stored water (expected total of three samples), and the samples will be analyzed to determine disposal requirements. The water samples will be analyzed by a CH2M HILL-subcontracted laboratory for TCL VOCs, SVOCs, and pesticides/PCBs, and

TAL metals. Any additional disposal characterization parameters, as required, will be conducted by an independent laboratory subcontracted by CH2M HILL. If the containerized waters are contaminated to the extent that they cannot be accepted by the POTW for treatment and disposal, then these waters will be set aside for disposal at an RCRA-licensed treatment/disposal facility.

4.8 Demobilization

Upon conclusion of the field activities, all support facilities and equipment from the site will be demobilized. All equipment and tools will be properly decontaminated before they are demobilized from the area. No site restoration activities are anticipated other than what the drilling firm may be required to do at the sampling locations (i.e., asphalt patch).

Appendix A
Standard Operating Procedures for
Conducting Field Sampling Activities

Standard Operating Procedures for Conducting Field Activities

STANDARD OPERATING PROCEDURES (SOPS)	
SOP #	SOP NAME
A.1	Sample Documentation
A.3	Field Logbook Procedures
A.6	Sample Packing and Shipping
B.1	Photoionization Detector
B.2	Combustible Gas/Oxygen/Hydrogen Sulfide Monitor
B.3	Miniature Real-Time Aerosol Monitor
B.4	Multiprobe Water Quality Meter
B.6	Radiation Monitor
D.1	Equipment Decontamination
F.1	Monitoring Well Design and Construction
F.2	Monitoring Well Development
F.3	Collection of Water Samples with Bailers
F.4	Low-Flow Groundwater Sampling
F.6	Sampling of Public and Private Water Supply Wells
F.7	Water Level and Well-Depth Measurements
F.10	Hydraulic Testing - Slug Tests
F.12	Surface and Subsurface Soil Sampling
F.13	Borehole Abandonment
F.15	Procedures for Filtering Metals Samples
F.16	Direct-Push Soil Sample Collection
F.20	Collection of Soil Samples for VOC Analysis using EnCore™ Samplers
F.21	Sample Preservation

Appendix B

Project Field Forms

Field Forms

Field Change Request Form

Field Parameter Form

Field Equipment Calibration Form

Well Development Log

Low Flow Sampling Log

Well Purging and Sampling Field Sheet

Groundwater Field Sample Data Record

Soil Boring Log

Well Completion Diagram (Unconsolidated)

NJDEP Groundwater Monitoring Well Certification - Well Form A (As-Built Certification)

NJDEP Groundwater Monitoring Well Certification - Well Form B

NJDEP Abandonment Form (Form DWR-020)

Appendix B

Geophysical Survey Report



Final Report
USEPA Response Action Contract # 68-W6-0036
Work Assignment #053-RICO-02MN
Martin Aaron Project
Solicitation #50021 for Utility Clearance Services
Enviroscan Reference Number 070115

Prepared For: CH2M HILL
Prepared By: Enviroscan, Inc.
December 20, 2001



December 20, 2001

Mr. Dave Nisula
CH2M Hill
1700 Market Street
Suite 1600
Philadelphia, PA 19103-3916

RE: U.S. EPA Response Action Contract No. 68-W6-0036
Work Assignment #053-RICO-02MN
Martin Aaron Project
Solicitation #50021 for Utility Clearance Services
Enviroscan Reference Number 070115

Dear Mr. Nisula:

Pursuant to acceptance of CH2M-HILL Solicitation No. 50021 for Utility Clearance Services, Enviroscan, Inc. conducted a geophysical survey of the above-referenced site between the dates of 12/05/01 and 12/07/01. This constituted the second mobilization of a survey begun on 08/21/01. The purpose of the survey was to trace all known utilities present within the remainder of the Martin Aaron survey area and locate underground metallic and non-metallic utilities and structures beneath each of 28 individual proposed boring locations. Seventeen boring locations were located within two fenced-in properties on the west side of Broadway Street (across the street from the first survey mobilization). Within the southern fenced-in area were two abandoned buildings and an asphalt parking/driveway area. The other fenced-in area (north of the two buildings) contained no structures, and the ground surface appeared to have been disturbed/excavated and graded. Additional boring locations were located across Broadway Street; specifically, four borings within a junkyard south of Everett Street (SO-210 to SO-213), and five borings in an alley adjoining Sixth Street (SO-401 to SO-404 and SO-202).

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Methods

The survey was completed in two phases, differentiated by scanning procedures. The first phase consisted of scanning the entire Martin Aaron property to identify and trace both known utilities (where surface indicators were present), and unknown potential utilities and structures. The second survey phase consisted of scanning designated areas 10 feet in diameter and centered upon each individually marked sampling location (28). Within these areas, Enviroscan marked and recorded all identified linear and non-linear anomalies. If an anomaly was noted within the sample location, it was moved to a nearby location (still within the 10-foot diameter area) that was outside the anomalous region.

Both phases of the geophysical investigation were completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology. Equipment and methods used to conduct the survey are described below.

EM

The survey areas were scanned with a Fisher TW-6 pipe and cable locator and tracer. In pipe and cable search mode, the TW-6 is essentially a deep-sensing metal detector that detects highly electrically conductive materials by creating an electromagnetic field with a transmitting coil. The field strength is measured by a receiving coil at a fixed separation from the transmitter. As the instrument is swept along the ground surface, subsurface metallic bodies distort the transmitted field. The change in field strength is sensed by the receiver, setting off an audible alarm and/or causing deflection of an analog meter. The TW-6 can nominally detect a 2-inch metal pipe to a depth of 8 feet and a 10-inch metal pipe to a depth of 14 feet. In pipe and cable tracing mode, the TW-6 transmitter can be coupled directly (conductively) to exposed portions of a metallic pipe, cable, or wire or inductively to a subsurface metallic utility with known location and orientation. The transmitter remains stationary and energizes the utility to be traced with an 81.92-kilohertz signal that can be traced at the ground surface using the mobile TW-6 receiver.

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In addition to the TW-6, Enviroscan employed an EM-61 metal detector manufactured by Geonics, Ltd. The EM-61 uses a rectangular coil to transmit 150 electromagnetic pulses per second into the ground at each measurement station. A second transmitter coil is used to narrowly focus the pulses, making the instrument less sensitive to overhead and/or nearby sources of electromagnetic interference such as buildings, fences, power lines, surficial debris, and atmospheric electromagnetic activity. During the off-time between transmitted pulses, a receiver coil measures the decay of transient electrical currents induced by the transmitted pulses. Electrical currents in moderately conductive earth materials (e.g. damp clays, mineralized or oxidized soils, etc.) dissipate rapidly, leaving the more prolonged currents due to buried metallic objects. The EM-61 measures the surficial electrical potential due to the prolonged subsurface currents, providing a digital read-out of the relative metallic content of the subsurface. Note that the EM-61 focusing coil minimizes, but does not entirely eliminate, the response from near-surface metallic reinforcing or debris which would mask the presence of deeper metal from standard EM, magnetic, metal detector, or GPR instruments. In addition, if a metallic object at the surface is large enough, it may saturate the instrument, thus preventing any determination of subsurface conditions directly underneath the object.

The EM-61 is capable of detecting a single 55-gallon steel drum at a depth of 12 feet and more massive targets (e.g. USTs) to greater depths. Note that these detection depths are not affected by mineralized soils or ionic groundwater of the type that can severely limit GPR penetration.

Enviroscan collected EM readings at one-second intervals (at walking speed) along profiles spaced roughly ten feet apart across the site (see Figure 1). EM readings are indicated with a plus sign. At each measurement station, the top and bottom coil differential responses (in millivolts or mV) were digitally recorded using an Omnidata Polycorder. Survey location control was maintained using a backpack-mounted global positioning system (GPS) receiver manufactured by Trimble Pathfinder.

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The survey areas were also scanned with a Radiodetection C.A.T. and Genny pipe and cable locator and tracer. In Power mode, the C.A.T. detects the 50/60 Hz energy signal present on most buried power cables and on other nearby cables or metallic pipes. In Radio mode, the C.A.T. detects buried conductors (cables or metallic pipes) as they re-transmit commercial broadcast radio energy. In Genny mode, the C.A.T. detects signal generated by the Genny transmitter. The Genny transmitter can be coupled directly (conductively) to exposed portions of a metallic pipe, cable, or wire or inductively to a subsurface metallic utility. The Genny transmitter can also be set to broadcast tracing signal over an extensive area – facilitating “blind” searches for undocumented utilities.

In order to properly combine the survey results with an AutoCAD map provided by the client, Enviroscan also mapped select base features with the GPS receiver. The GPS base features and EM data stations were differentially corrected relative to a continuously operating community base station in Trenton, NJ, with the resulting differential GPS (DGPS) positions having an accuracy of approximately three feet or better.

GPR

The survey areas were scanned with GPR to identify nonmetallic or metallic utilities/structures. GPR systems produce cross sectional images of subsurface features and layers by continuously emitting pulses of radar frequency energy from a scanning antenna as it is towed along a survey profile. The radar pulses are reflected by interfaces between materials with differing dielectric properties. The reflections return to the antenna and are printed on a strip chart recorder or displayed on a video monitor as a continuous cross section in real time. Since the electrical properties of metal are distinctly different from soil and backfill materials, metallic pipes and other structures produce dramatic and characteristic reflections. Fiberglass, plastic, concrete, and terra-cotta pipes and structures produce recognizable, but less dramatic reflections.

Scanning was performed using a GSSI SIR-2 GPR controller with a color display and internal hard drive, and a 500-megahertz scanning antenna.

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MAG

The survey areas were scanned with a Fisher FX-3 MAG instrument which contains two elements that measure the difference in total strength of the earth's magnetic field between two fixed heights above the ground surface (i.e. the magnetic gradient). In the absence of artificial magnetic fields or buried ferromagnetic objects, the natural gradient of the earth's field is relatively constant. Where buried magnetic or ferromagnetic objects (e.g. magnetite or iron/steel respectively) are present, the gradient varies rapidly as the instrument is swept along the ground surface, triggering an audible alarm. The MAG instrument employed for this survey can nominally detect a 2-inch steel pipe to a depth of 4 feet, and a buried manhole cover to a depth of 10 feet.

Survey Results

Phase 1: Site- Wide Utility Survey

The information depicted in Figures 1 and 2 summarizes the results of the first phase of geophysical work, i.e. the search and tracing of any known or unknown utilities that could cross the Martin Aaron property and nearby areas.

A C.A.T. in both Power and Radio modes was used to delineate any sort of live power, gas, or water utilities that cross the Martin Aaron property. No power anomalies were detected across the entire survey area. Several radio anomalies were noted surrounding two buildings within the southern portion of the Martin Aaron site. Their limits were marked on the ground surface, the locations of which are shown in Figures 1 and 2. These anomalies did not terminate at any surficial utility manifestations; therefore, based upon the CAT-R results alone it is not clear what type of utilities they could be, or even whether they are utilities at all. In order to confirm the CAT markings and potentially resolve the type of utility, TW-6 was used in induction mode along the marked CAT anomalies. One line (shown in blue) to the east of the large building was traced to a water valve cover along Broadway Street. Two lines (shown in red) were traced to their apparent sources (what appeared to be small junction boxes) on the sides of buildings. It is not clear whether these apparent electric lines were active or not. Other CAT-R anomalies that could also be traced by the TW-6, but could not be traced to a definitive source, are marked in orange.

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As the final portion of the Phase 1 utility survey, Enviroscan performed an EM-61 survey across all accessible portions of the Martin Aaron property, the results of which are shown in Figure 2. The two highest magnitude anomalies shown are reinforced concrete pads. The dashed contour line represents a boundary between normal background response and increasing subsurface metal. This contour line correlates well with subsurface features delineated by the CAT and TW-6 instruments.

Within the northern section of the survey area are several linear zones of increased metal content. They are marked with a dashed line (See Figure 2) and could represent buried metal piping or inactive utilities; however, note that these features were not detected by any instruments sensitive specifically to utilities. Adjacent to these linear anomalies are two large clusters that display apparently low levels of metal content (marked A and B). Borings SB-68 and SB-29 are located here, and though no utilities were detected using either the CAT or TW-6, caution should be exercised when drilling within these two zones, as well as any other areas determined to have a high metal concentration.

Phase 2: Individual Boring Clearance

As described above, 28 individual sample locations were cleared (in a 10-foot diameter surrounding each center point) area using a C.A.T in Power and Radio modes, a TW-6 in metal detection mode, an FX-3, and GPR.

Any anomalies detected were marked on the ground surface with spray paint, and their location measurements were recorded using a pull-tape and survey wheel. Those measurements were transferred to documentation sheets (copies of which are included as Appendix A) and an AutoCAD basemap (provided by the client, see Sheets 1-4 of 070115.dwg). Note that any sample locations present within an anomalous area were shifted to a "clear" spot within the 10-foot diameter area) and then marked on the ground surface with blue spray paint. The moved locations are also contained within the AutoCAD drawings and are listed in Table 1.

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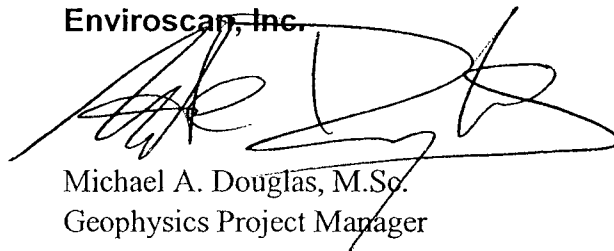
Limitations

The geophysical survey described above was completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology. Please also note that the survey data are based on site conditions at the time of the geophysical investigation. Enviroscan does not accept responsibility for survey limitations due to inherent technological limitations or unforeseen site-specific conditions. However, we make every effort to identify and notify the client of such limitations or conditions.

We have enjoyed and appreciated this opportunity to work with you. If you have any questions, please do not hesitate to contact the undersigned.

Sincerely,

Enviroscan, Inc.



Michael A. Douglas, M.Sc.
Geophysics Project Manager

Technical Review By:

Enviroscan, Inc.



Felicia Kegel Bechtel, M.Sc., P.G.
President

enc.: Figure 1: EM-61 Data Coverage
Figure 2: Utility Survey Summary
070115.dwg (Sheets 1-4): Boring Location information
Table 1: Relocated Boring Areas
Appendix A: Daily Field Logs and Notes of 28 Proposed Boring Locations (copies)
Diskette with AutoCAD drawing (.dwg format)

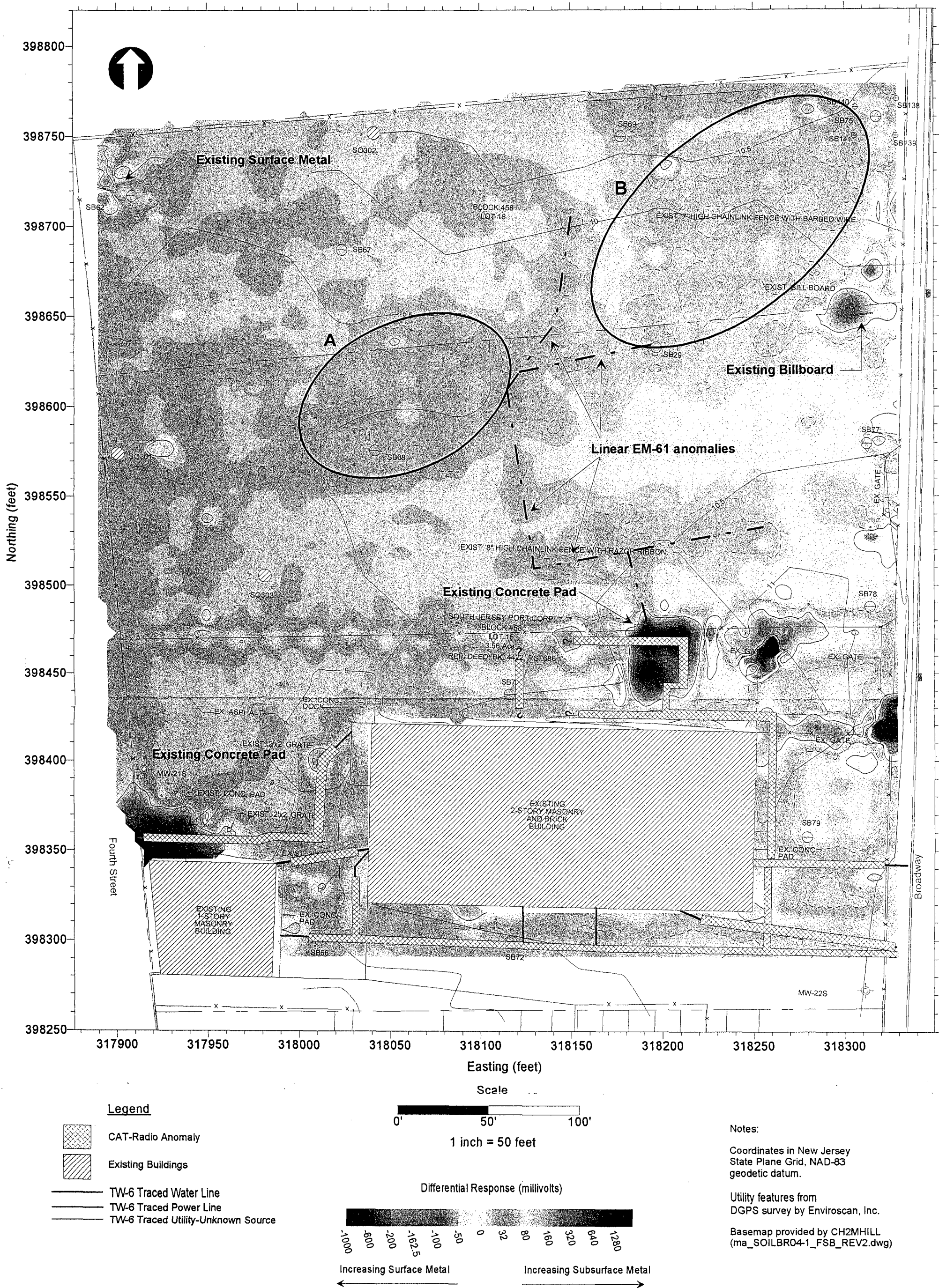


Figure 2

**Utility Survey Summary
&
EM-61 Differential
Response Contours**

**Martin Aaron Site
Camden, NJ**

**Enviroscan, Inc.
Project No. 070115
Rev. 9/12/01**



Table 1
Relocated Boring Areas

<u>Boring Location</u>	<u>Moved (N/S)</u>	<u>Moved (E/W)</u>
SB-66	1' 0" North	
MW-21S	3' 0" South	2' 0" West
SO-206	3' 0" North	

Appendix A

Daily Field Logs and Notes of 28 Proposed Boring Locations

Appendix A

Daily Field Logs and Notes of 28 Proposed Boring Locations

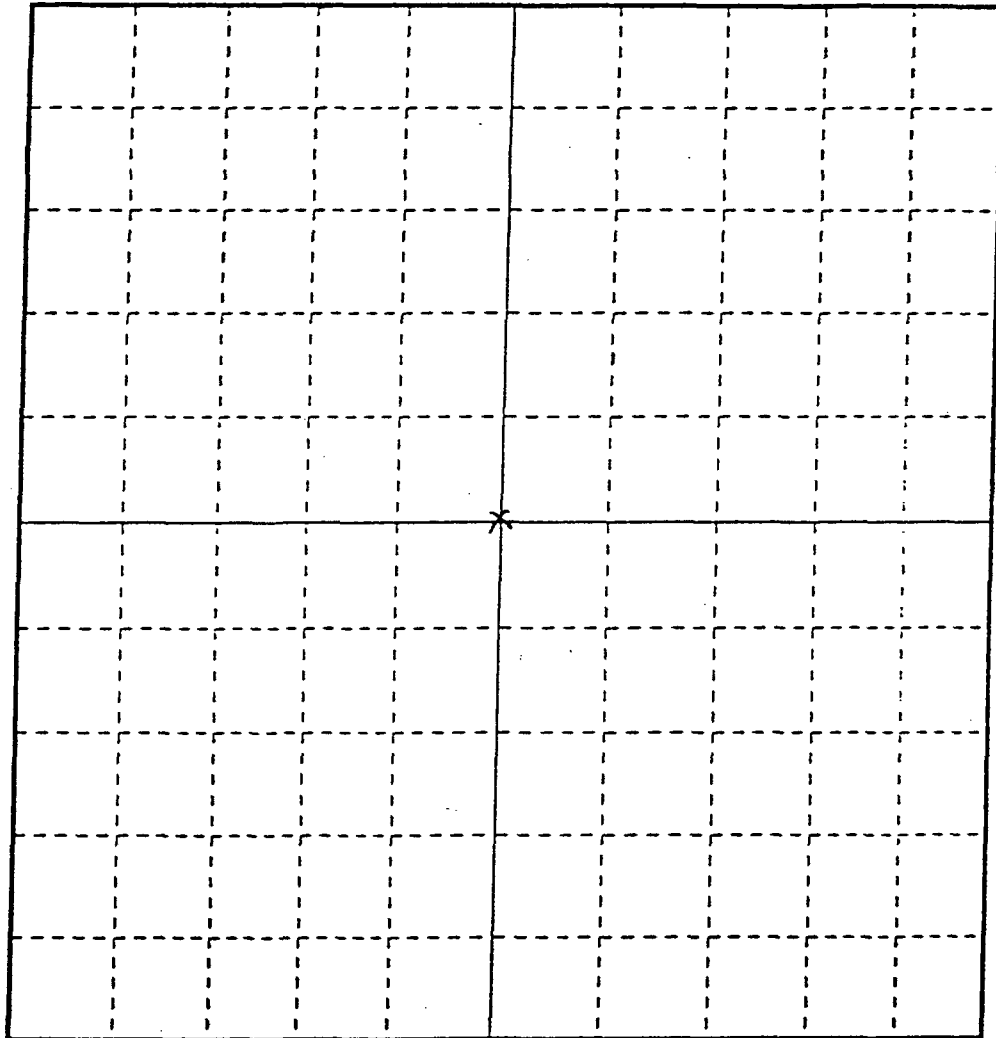
Geophysical Equipment

MAG:	Fisher FX-3
------	-------------

Location:	GPR	EM	MAG	Coverage (feet)	Notes:
4 locations - (50210-50213)	Scanned w/ GPR, TW-6, +CAT				
all were clear.					
All utility features were GPS'd in for antecord map.					
Left the site at approx 11:30					

Project No.: 070115	Project Name: Martin Aron
Location: 50212	Client: CH2M Hill
Date: 12-07-01	Time:

GPR.:	Antenna: 500m Hz Approx. Depth: ~20-25m
	Range: 60m File No.:
TW-6:	Setting: 6.5
C.A.T.:	Setting: (P) (R) G
FX-3:	Setting: 5



Notes GPR - no anomalies detected (poor signal penetration)

FX-3 - no large, linear anomalies detected

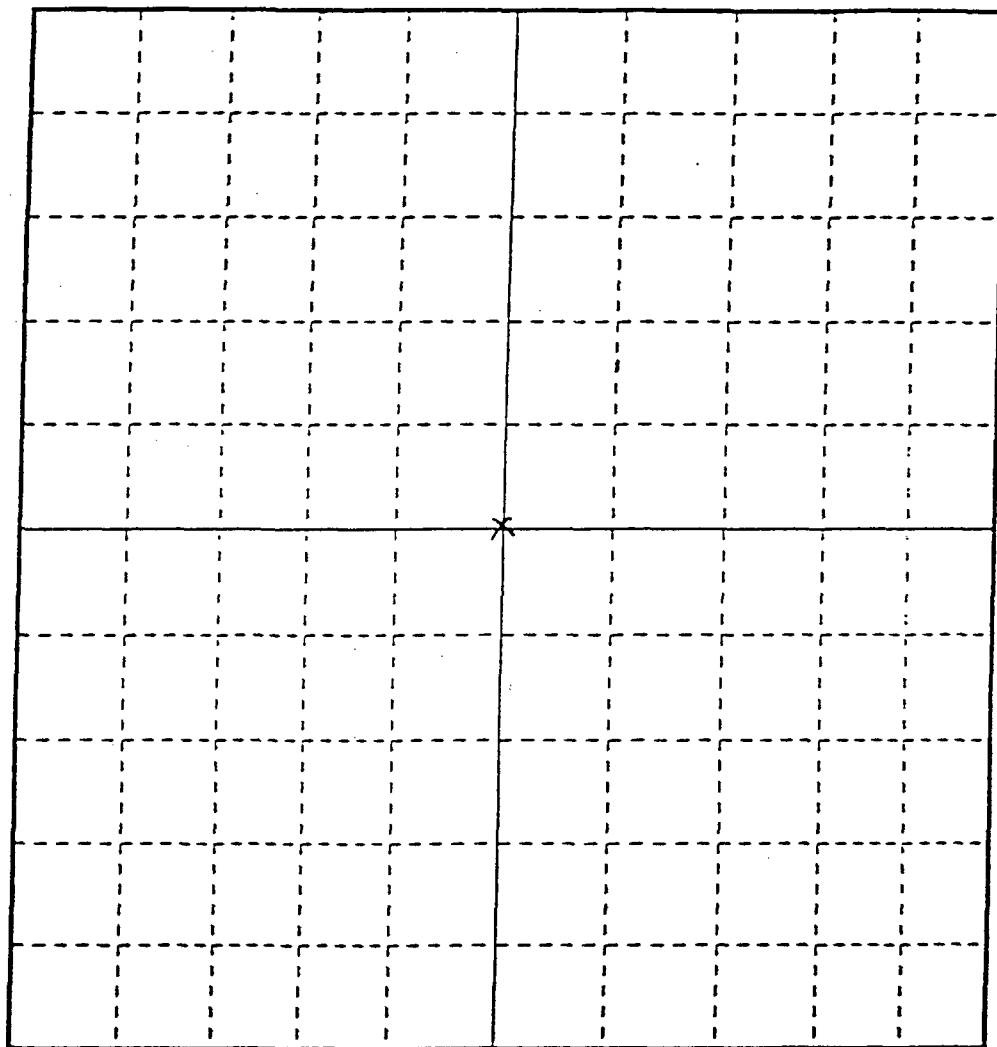
TW-6 - no anomalies detected

CAT P/R - no anomalies detected

*Location is clear for drilling

Location: 80213	Client: CH2MHILL
Date: 12-09-01	Time:

GPR.:	Antenna: 500m Hz Approx. Depth: ~20-25m
	Range: 60m File No.:
TW-6:	Setting: 6.5
C.A.T.:	Setting: (P) (R) G
FX-3:	Setting: 5



N →

Notes GPR - no anomalies detected (poor signal penetration)

FX-3 - no large, linear anomalies detected

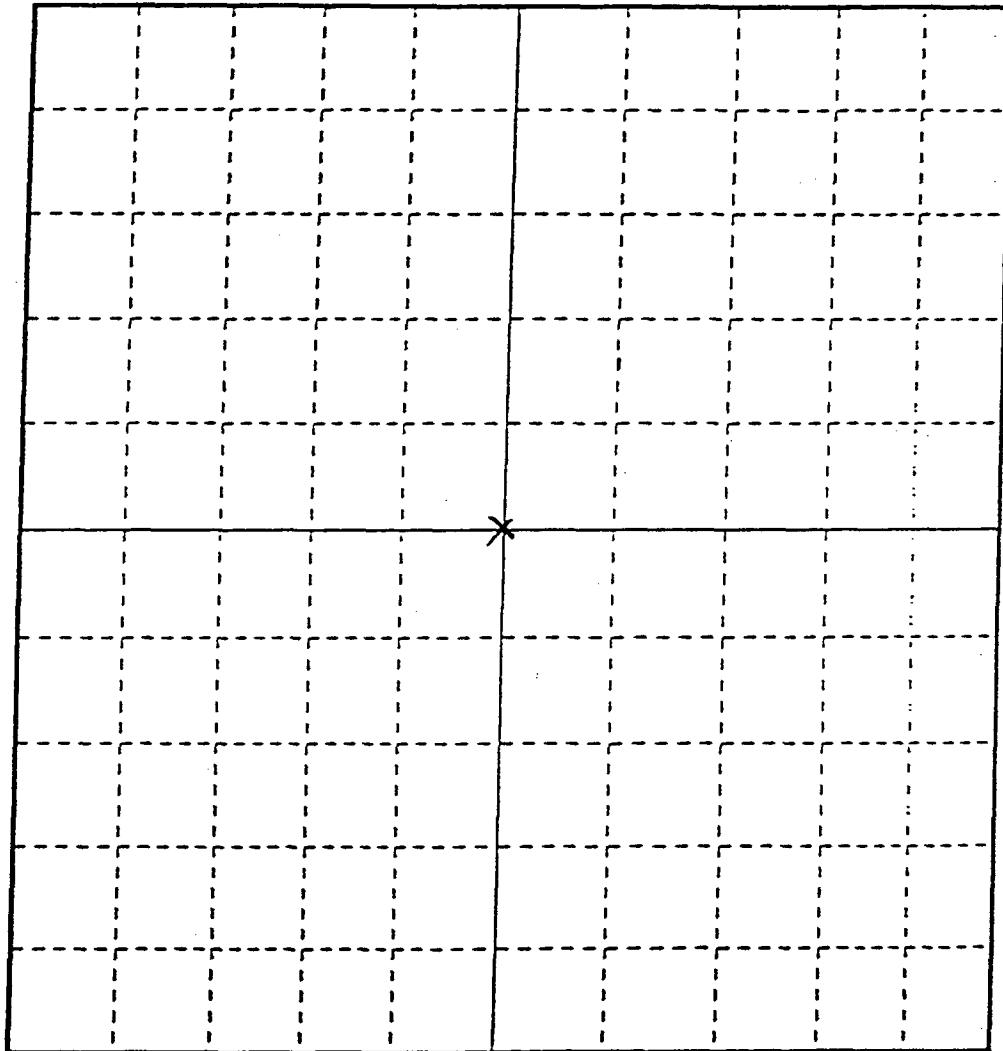
TW-6 - no anomalies detected

CAT P/R - no anomalies detected

Location is clear for drilling

Project No.: 070119	Client: CHZMH.II
Location: 50403	Time:
Date: 12-06-01	

GPR.: inaccessible	Antenna:	Approx. Depth:
	Range:	File No.:
TW-6:	Setting: 6.5	
C.A.T.:	Setting: (D) (R) G	
FX-3:	Setting: 5	

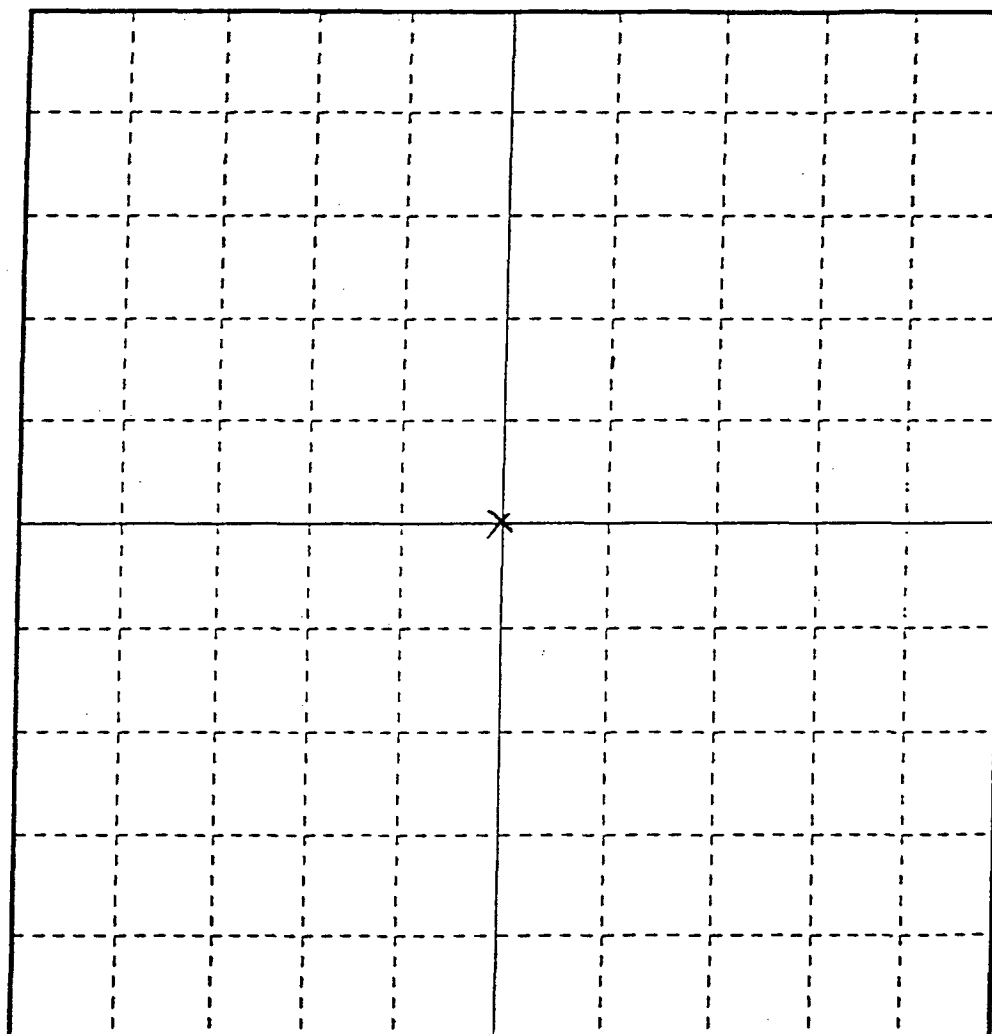


N →

Notes no anomalies detected by any instrument, location is clear to drill

Project No.: 070115	Project Name: Martin Aaron
Location: S0404	Client: CH2MHill
Date: 12-06-01	Time:

GPR.: inaccessible	Antenna:	Approx. Depth:
	Range:	File No.:
TW-6:	Setting: 6.5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



N →

Notes no anomalies detected by any instrument, location is clear to drill

Project No.: 070115

Project Name:

Location: 50211

Client:

Date: 12-07-01

Time:

GPR.:

Antenna: 500MHz Approx. Depth: ~25-30ms

Range: 60ms File No.:

TW-6:

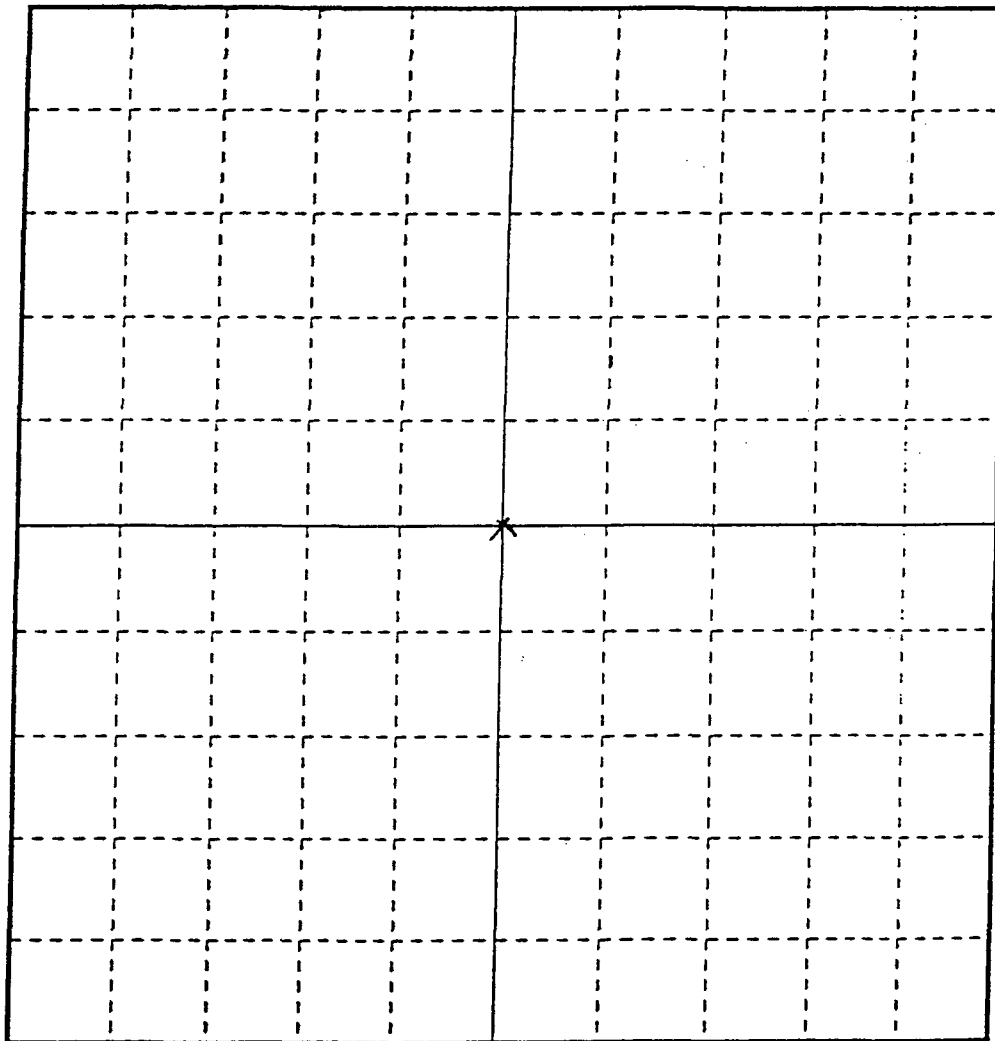
Setting: 6.5

C.A.T.:

Setting: (P) (R) G

FX-3:

Setting: 5



N→

Notes CAT Power - ~~no~~ anomalies detected

CAT Radio - no anomalies detected

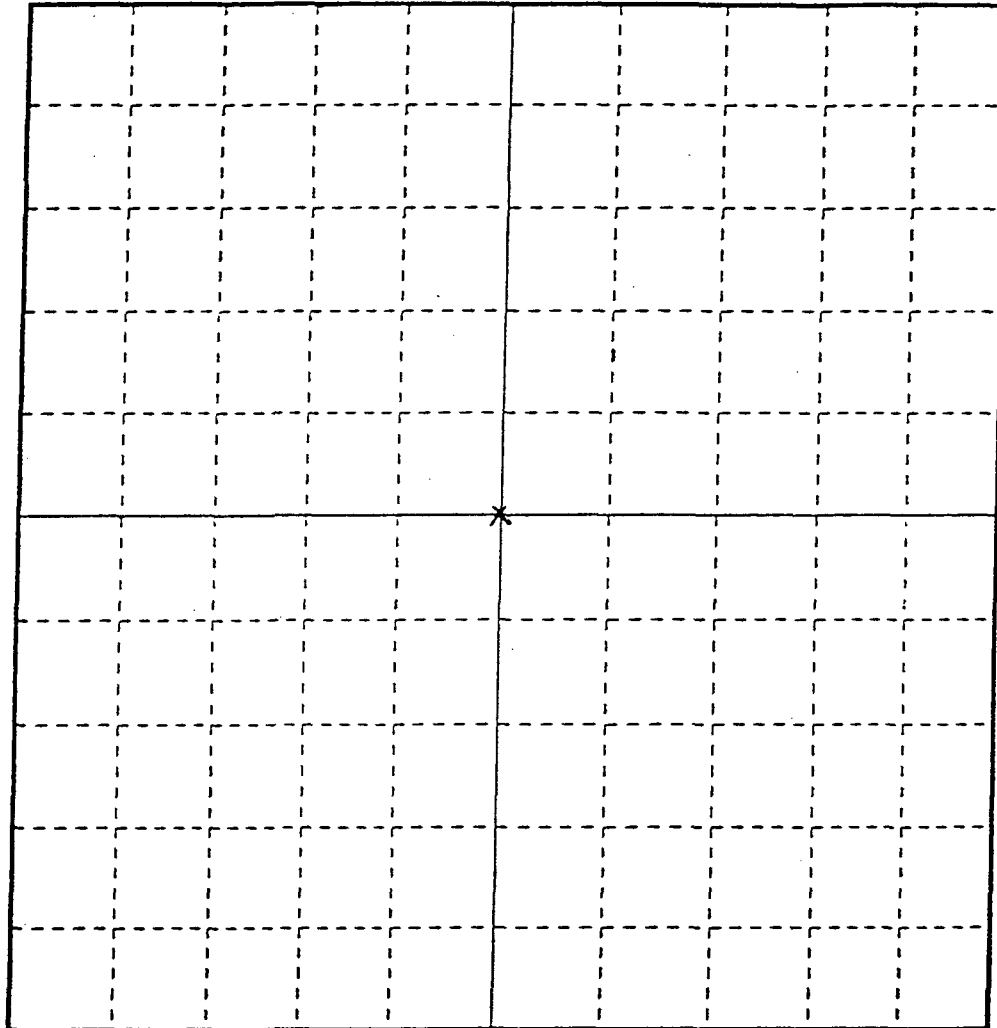
TW-6 - no anomalies detected

FX-3 - no anomalies detected

GPR - no anomalies detected

Project No.:	070115	Project Name:	Martin Aaron
Location:	S0210	Client:	CH2MHill
Date:	12-07-01	Time:	

GPR.:	Antenna: 500MHz	Approx. Depth: ~30-25ns
	Range: 60ns	File No.:
TW-6:	Setting: 6.5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	

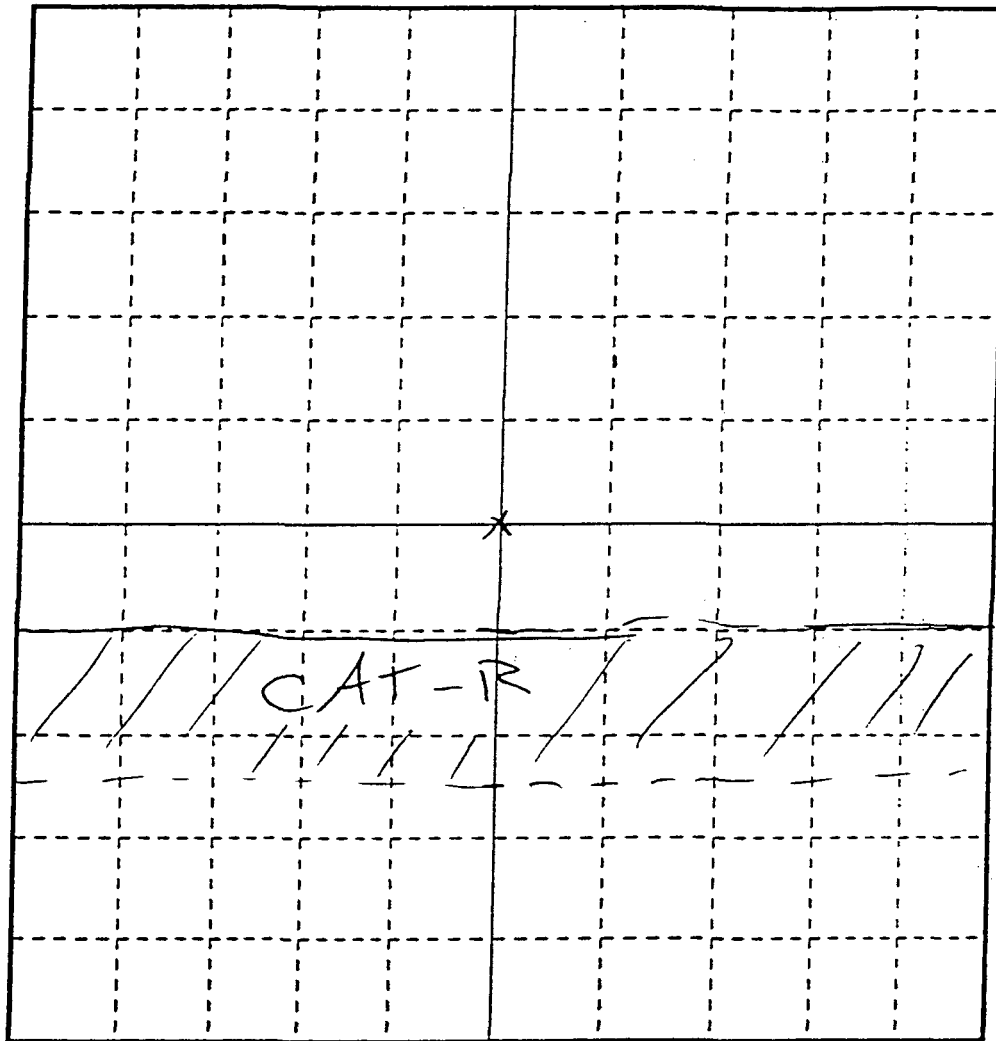


N →

Notes GPR - no anomalies detected
 TW-6 - no anomalies detected
 CAT P/R - no anomalies detected
 FX-3 - small ~~point~~ point targets seen, none large or linear

Project No.: 070115	Project Name: Martin Aaron
Location: SB-71	Client: CH2MHill
Date: 12-06-01	Time:

GPR.:	Antenna: 500 MHz	Approx. Depth: 120-300 ft
	Range: 60 ft	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: P R G	
FX-3:	Setting: 5	



N →
CAT-R

Notes GPR - no anomalies detected

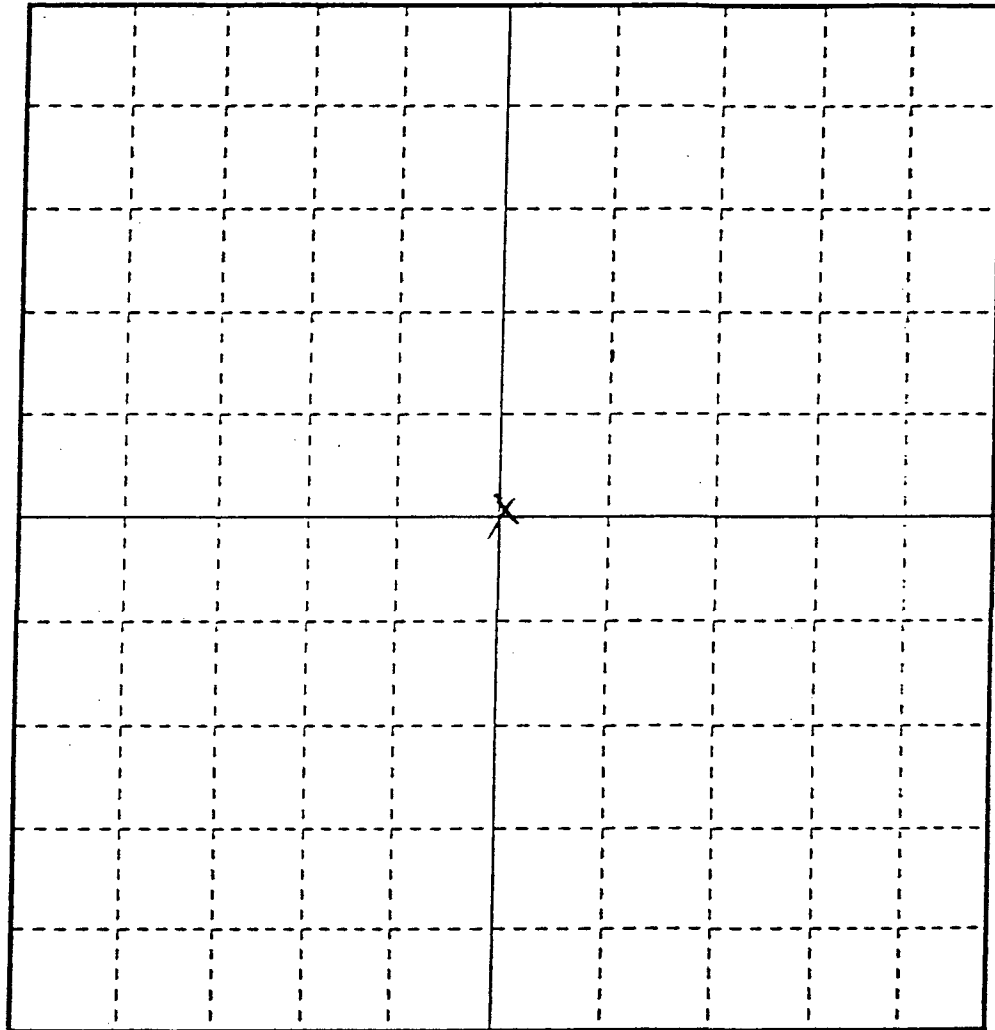
TW-6 - no anomalies detected

CAT-P, R - no anomalies detected

FX-3 - no anomalies detected

Project No.: 070115	Project Name: Martin Aaron
Location: SB-62	Client: CH2MHill
Date: 12-06-01	Time:

GPR.:	Antenna: 500MHz	Approx. Depth: ~30ms
	Range: 60ms	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



Notes TW-6 - saturated (lots of surface metal)

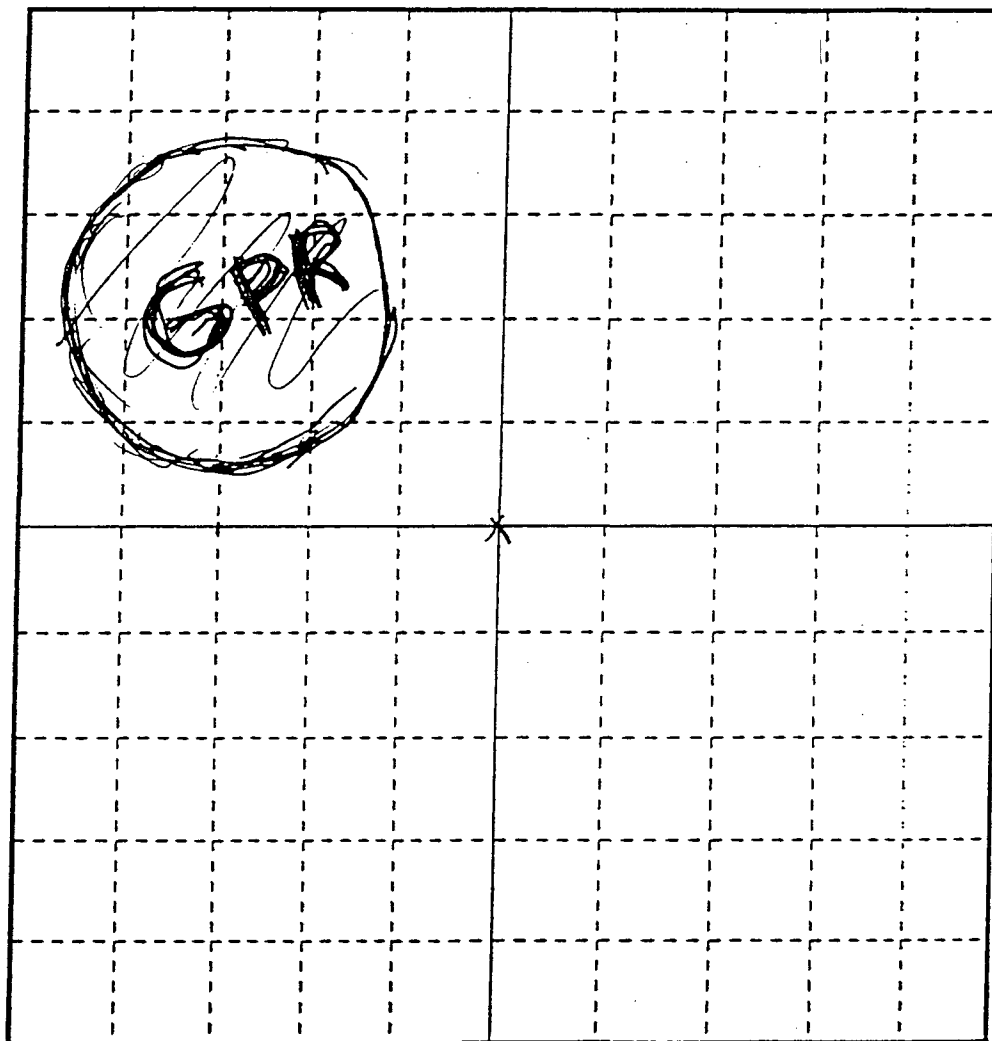
CAT-P&R - no anomalies detected


GPR - no anomalies detected

Boring location appears clear, no corroboration of TW-6 anomaly w/ any other instrument.

Project No.: 070115	Project Name: Martin Aron
Location: SB-69	Client: CH2M4.11
Date: 12-06-01	Time:

GPR.:	Antenna: 500 MHz	Approx. Depth: 30-15
	Range: 60-15	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



N →
 GPR

Notes GPR - point-like parabolic reflector, see above

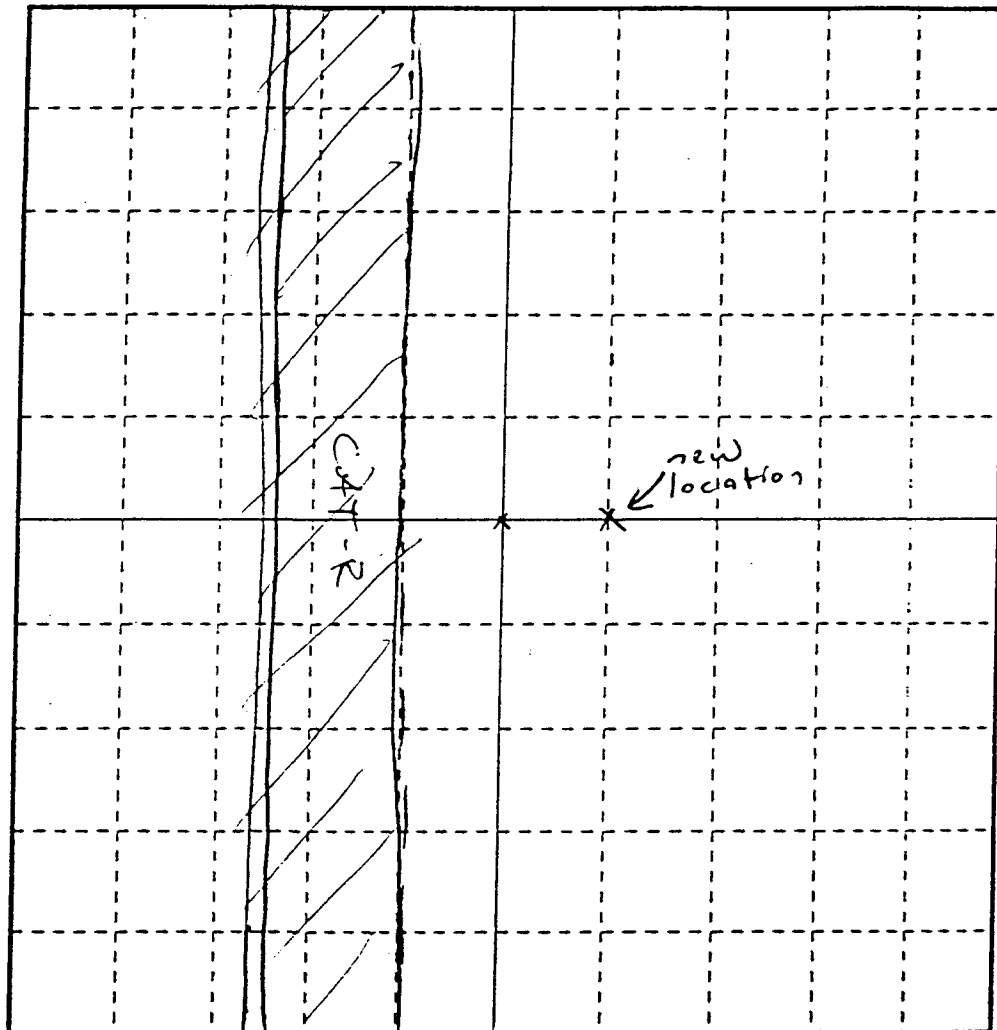
TW6 - no anomalies detected


CAT-P - no anomalies detected

CAT-R - no anomalies detected

Project No.: 070115	Project Name: Martin Aaron
Location: SB-66	Client: CH2M Hill
Date: 12-06-01	Time:

GPR.:	Antenna: 500 MHz Approx. Depth: 30 ms
	Range: 60 ms File No.:
TW-6:	Setting: 6
C.A.T.:	Setting: (P) (R) G
FX-3:	Setting: 5



N →
 - CAT-1

Notes

TW-6 - (linear anomaly traced in induction mode (see above)
 c20 anomalies detected in metal detection mode

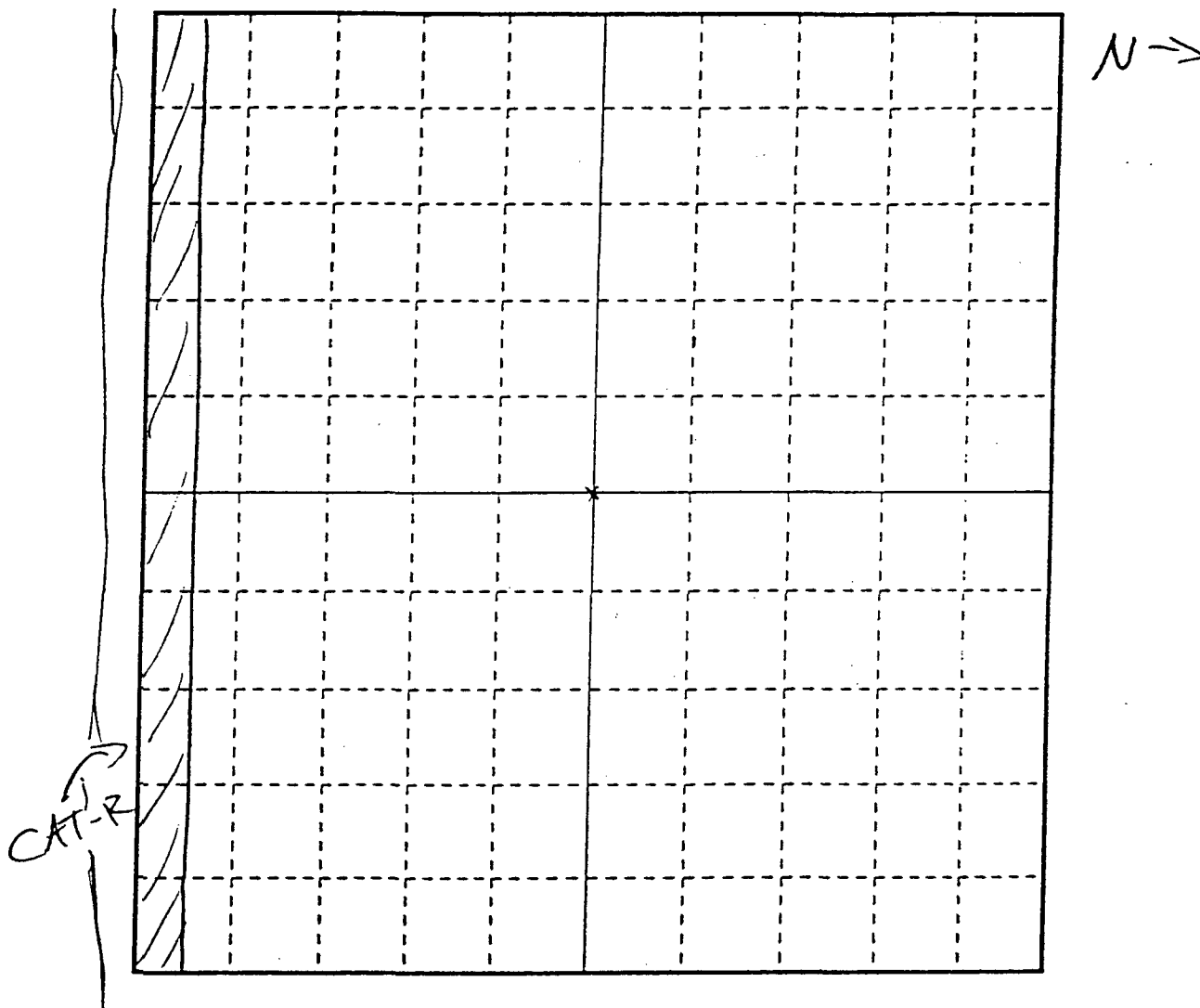
CAT-R - see above (linear anomaly marked)

GPR - no anomalies detected

⊗ Boring moved 1 foot north

Project No.: <i>Martin Aron</i>	Project Name: <i>070115</i>
Location: <i>SB-72</i>	Client: <i>CH2 M Hill</i>
Date: <i>12-06-01</i>	Time:

GPR:	Antenna: <i>500 MHz</i> Approx. Depth: <i>30 .5</i>
	Range: <i>60 .5</i> File No.:
TW-6:	Setting: <i>6</i>
C.A.T.:	Setting: <i>⊙</i> <i>(R)</i> <i>G</i>
FX-3:	Setting: <i>5</i>



Notes *GPR-no anomalies detected*

TW-6-no anomalies detected

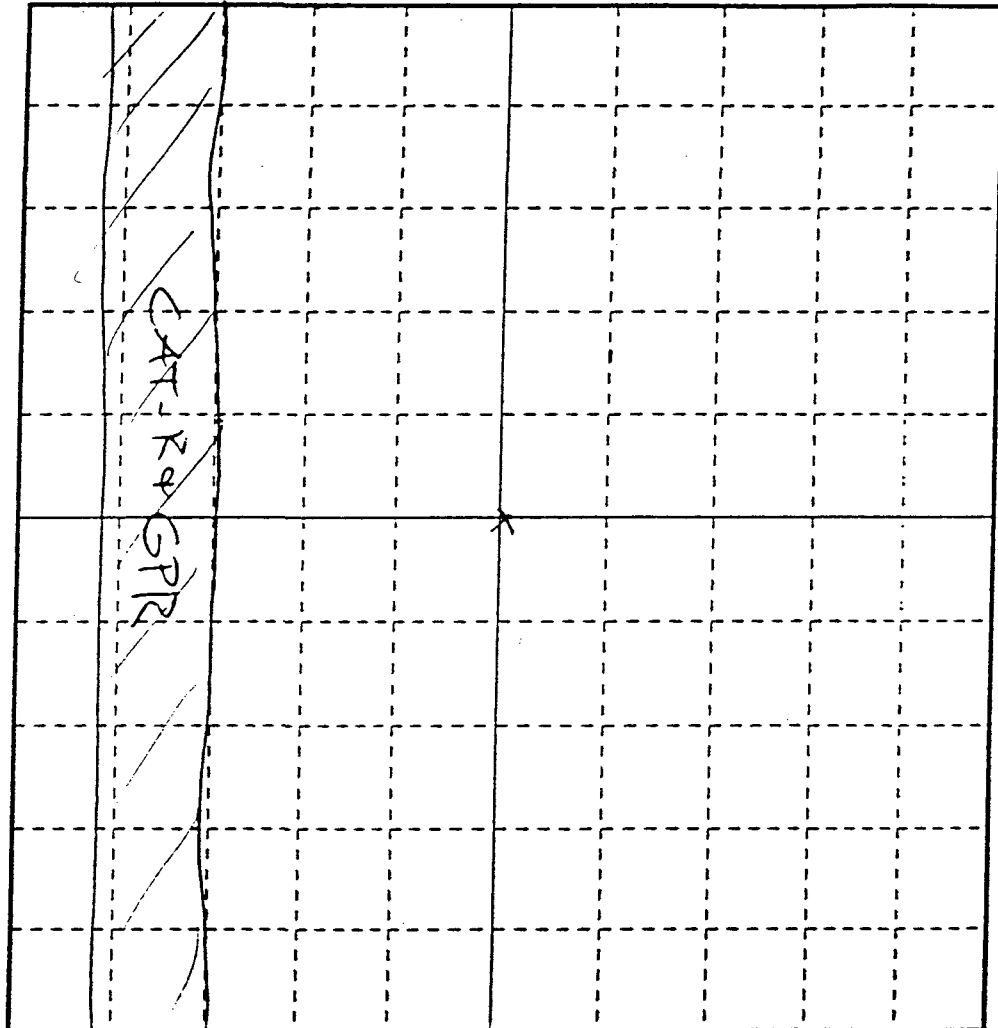
CAT-P-no anomalies detected

CAT-R-see above (linear anomaly marked) corresponds to induced TW-6 anomaly

FX-3-small pointlike targets, none large or linear

Project No.: 070115	Project Name: Martin Aaron
Location: 12-06-01 SB-85	Client: CH2MHill
Date: 12-06-01	Time:

GPR.:	Antenna: 500 MHz Approx. Depth: 40-5
	Range: 60 is File No.:
TW-6:	Setting: 6.5
C.A.T.:	Setting: (P) (R) G
FX-3:	Setting: 5



N →

Notes FX-3 small pointlike targets, none l-jet or linear
 TW-6- no anomalies detected
 CAT-P- no anomalies detected
 CAT-R- see above map
 GPR- see above map

Project No.: 070115

Project Name: Martin Aaron

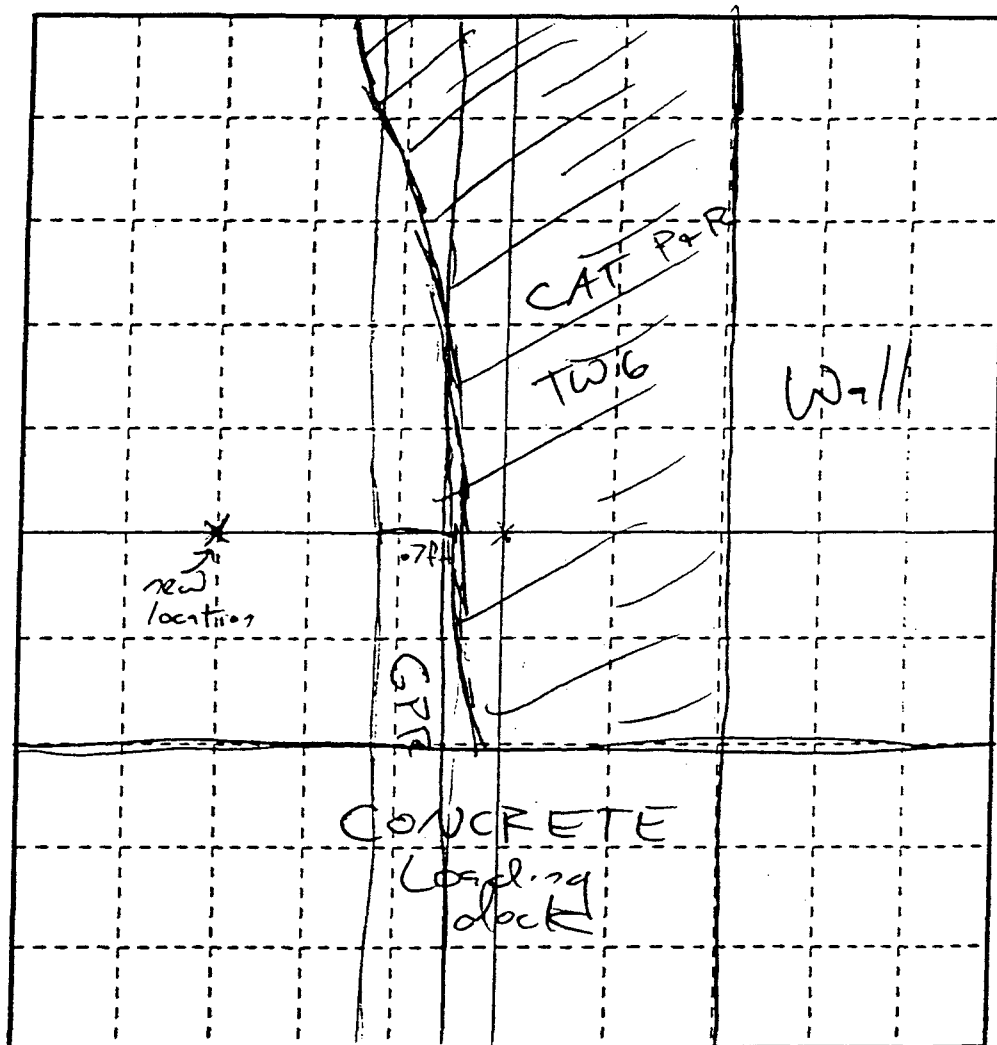
Location: 50-206

Client: CH2MHill

Date: 12-06-01

Time:

GPR.:	Antenna: 500 MHz Approx. Depth: 30.5	
	Range: 60.5	File No.: 325
TW-6:	Setting: 6	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



Notes CA

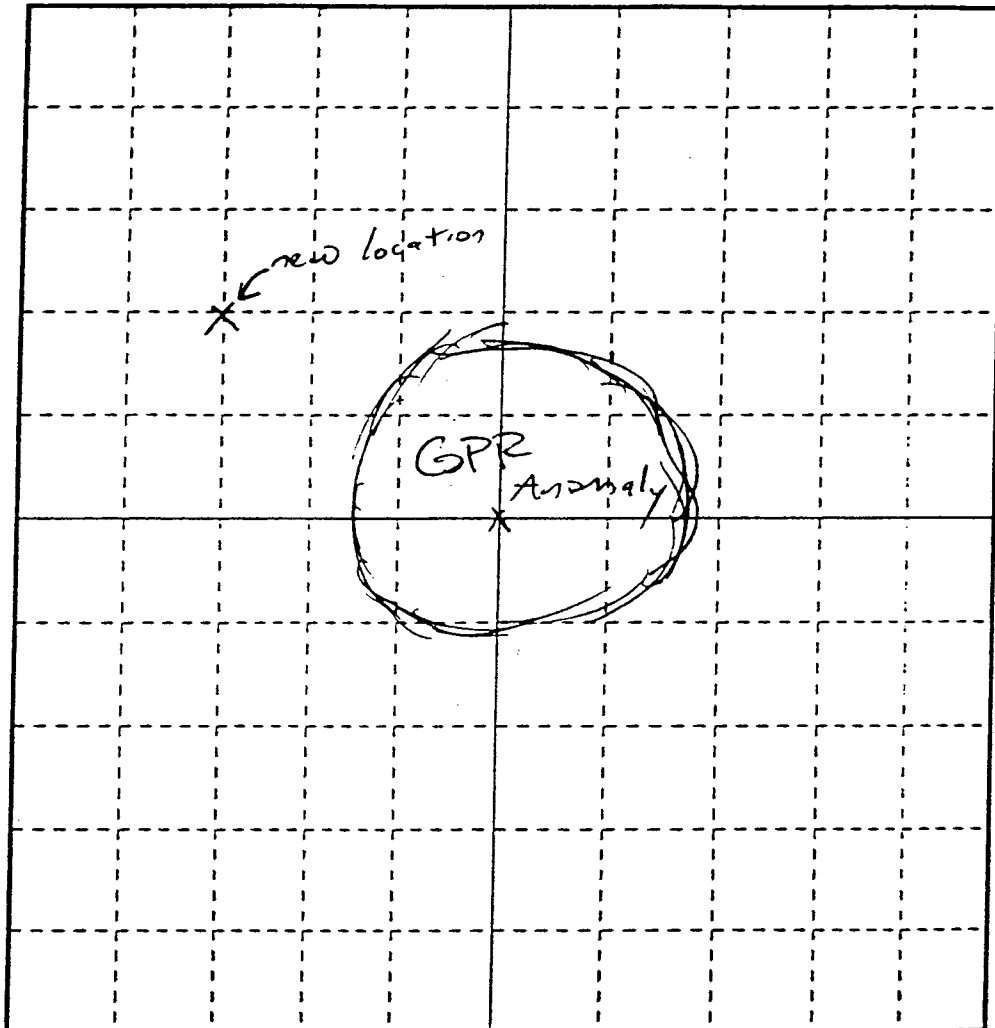
all anomalies see above map

FX-3 no anomalies detected

(*) Boring location moved 3 feet north

Project No.: 070115	Project Name: Martin Aaron
Location: MW-26S	Client: CH2MHILL
Date: 12-05-01	Time:

GPR:	Antenna: 500MHz	Approx. Depth: 30ms
	Range: 60ms	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



N →

Notes GPR - see above

TW-6 - no anomalies detected

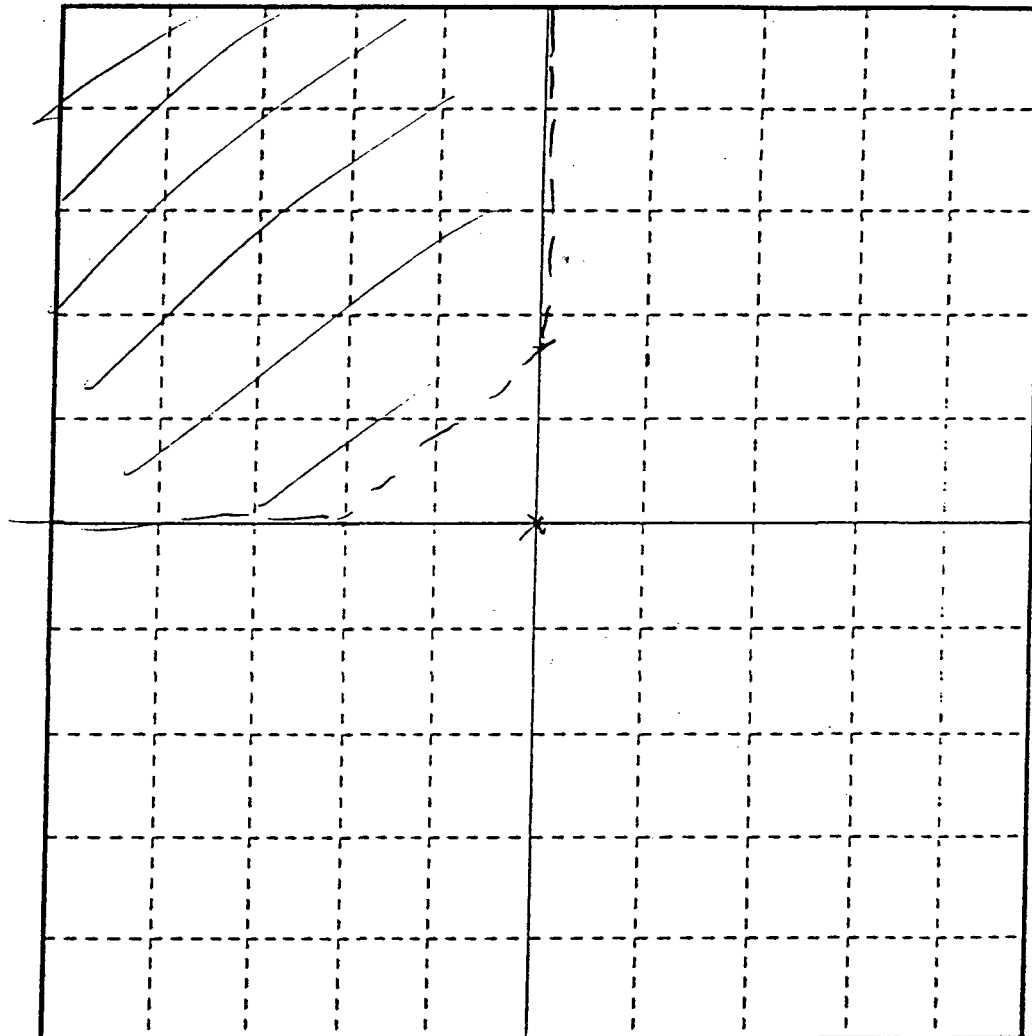
CAT-P, R - no anomalies detected

FX-3 - no anomalies detected

(P) location moved 2'0" W / 3'0" S

Project No.: 070101-070115	Project Name: Martin Aero
Location: 50-202	Client: CH2M Hill
Date: 12-06-01	Time:

GPR: No GPR (inaccess. bld)	Antenna:	Approx. Depth:
	Range:	File No.:
TW-6:	Setting: 6	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



Notes FX-3-small point-like targets, none large or linear

CAT-P- no anomalies detected

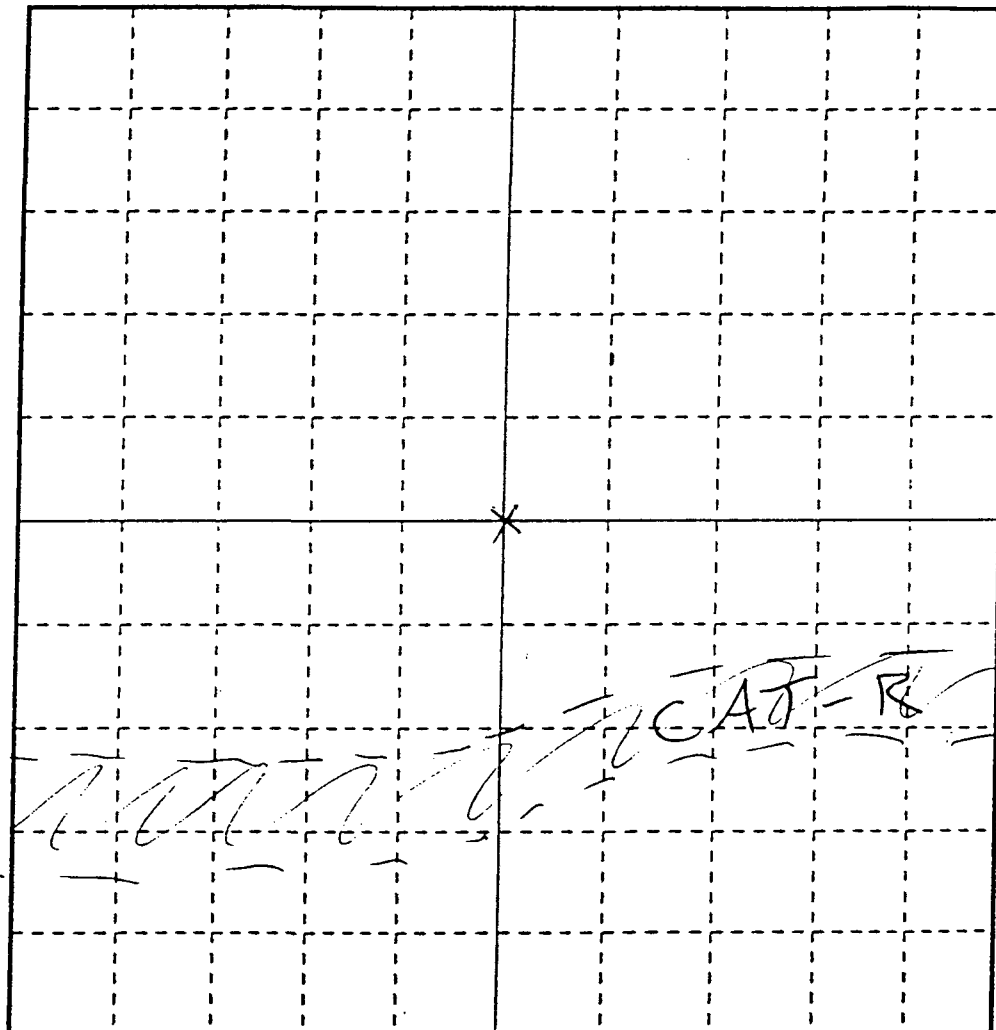
CAT-R- no anomalies detected

GPR- inaccessible

TW6-see above

Project No.: 070115	Project Name: Martin Aaron
Location: 20-401	Client: CH2 MHI, LLC
Date: 12-06-01	Time:

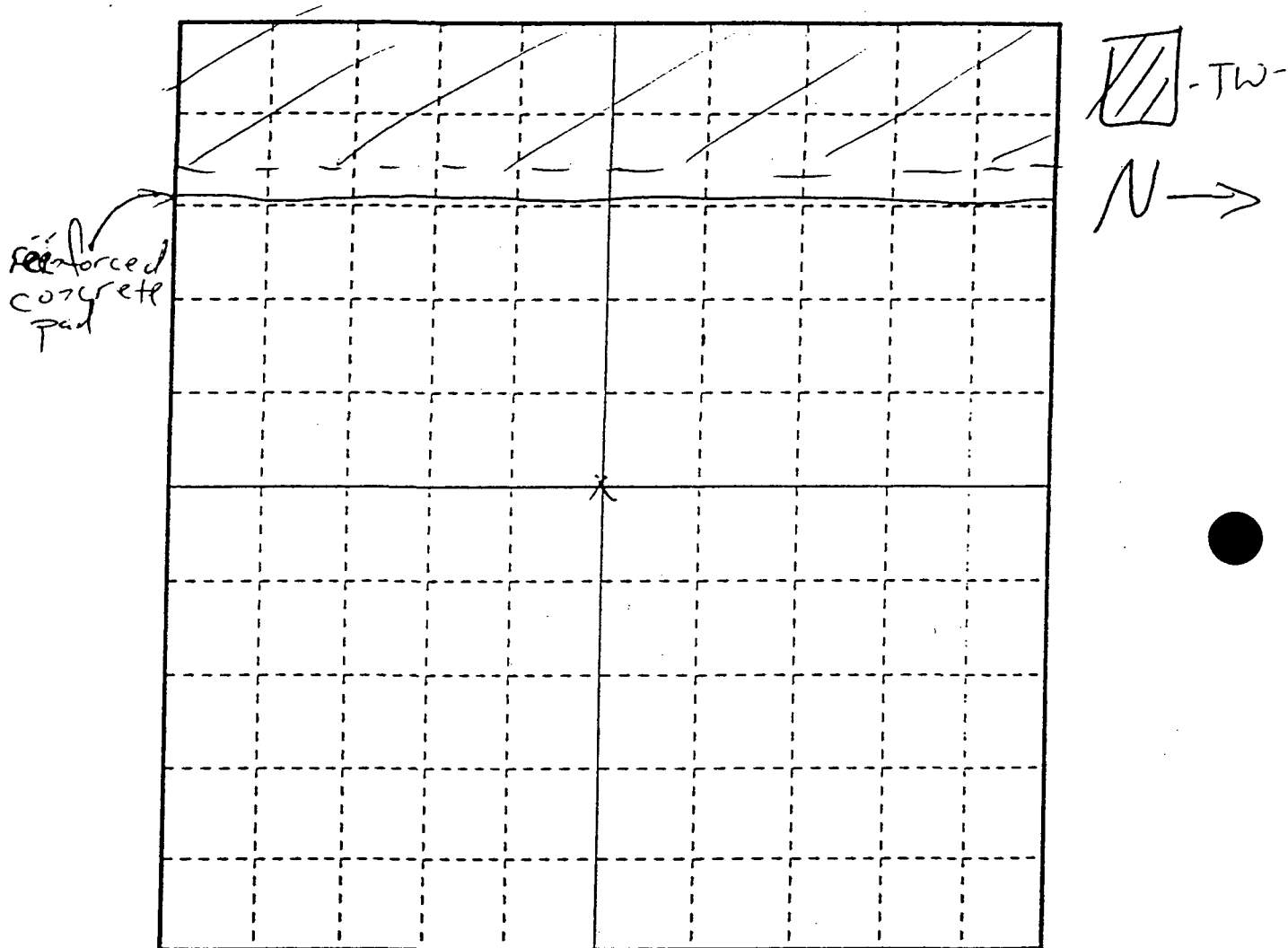
GPR.: 1072	Antenna:	Approx. Depth:
	Range:	File No.:
TW-6:	Setting: 6	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



Notes TW-6 - saturated (due to concrete pad)
 FX-3 - no anomalies detected
 CAT-P - no anomalies detected
 CAT-R - see above map

Project No.: 070115	Project Name: Martin Aaron
Location: 50-402	Client: CH2MHILL
Date: 12-06-01	Time:

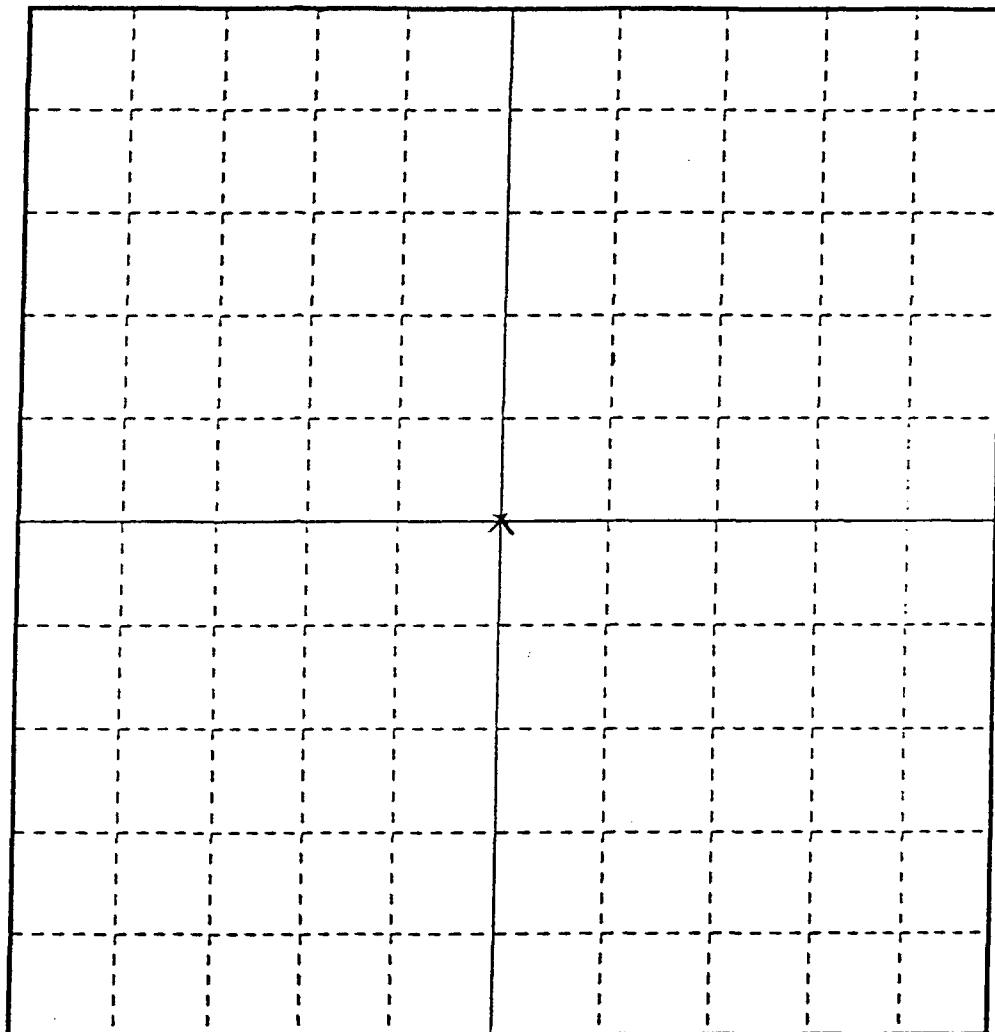
GPR.: 107E	Antenna:	Approx. Depth:
	Range:	File No.:
TW-6:	Setting: 6	
C.A.T.:	Setting: P R G	
FX-3:	Setting: 5	



Notes: FX-3 - no anomalies detected
 TW6 - Saturated (see above) corresponds to concrete pad
 CAT P, R no anomalies detected
 GPR - inaccessible

Project No.: 070115	Project Name: Aaron Martin Site
Location: SB-75	Client: CH2MHill
Date: 12-05-01	Time:

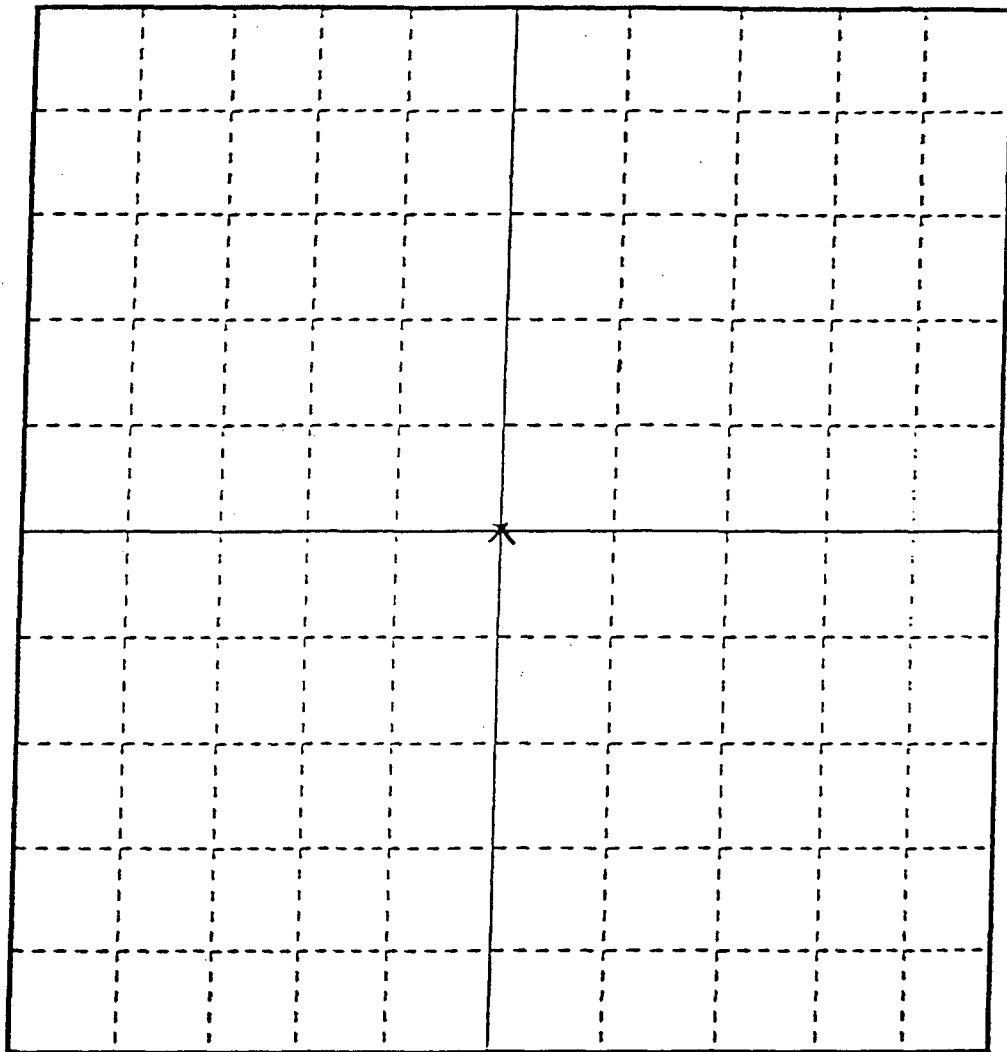
GPR.:	Antenna: 500MHz	Approx. Depth: 30ms
	Range: 60ms	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



Notes GPR - No anomalies detected, appearance of disturbed soil in record
 TW-6 - no anomalies detected
 CAT-P/R - no anomalies detected in either mode
 FX-3 - small metallic point targets, none large or linear
 - Boring is clear to drill

Project No.: 070115	Project Name: Aaron / 4-17-11
Location: 50-302	Client: CH2M Hill
Date: 12-05-01	Time:

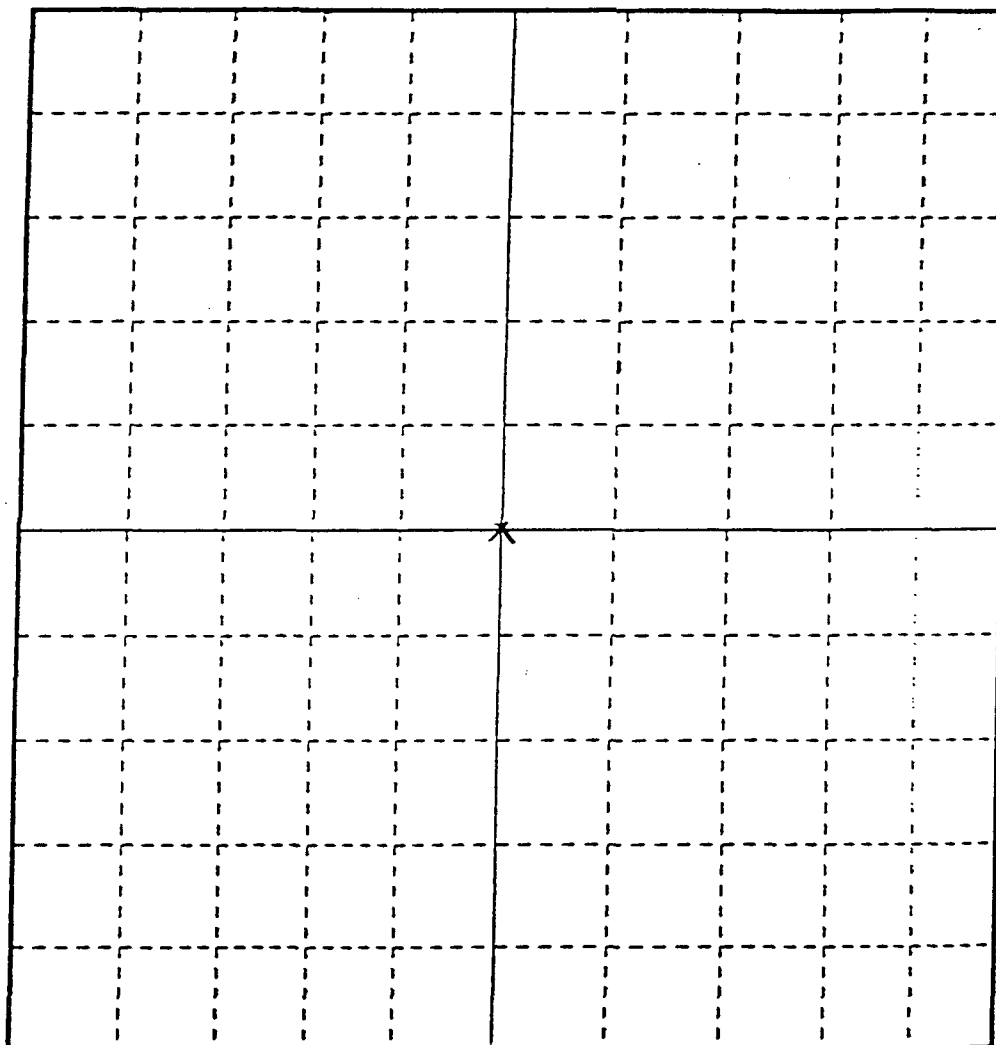
GPR.:	Antenna: 500MHz	Approx. Depth: 30ms
	Range: 60ms	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



Notes GPR - No anomalies detected, appearance of disturbed soil in record
 TW-6 - no anomalies detected
 CAT-P/R - no anomalies detected in either mode
 FX-3 - small metallic point targets, none large or linear
 - Boring is clear to drill

Project No.: 020115
 Location: SB-67 Client: CH2M HILL
 Date: 12-05-01 Time:

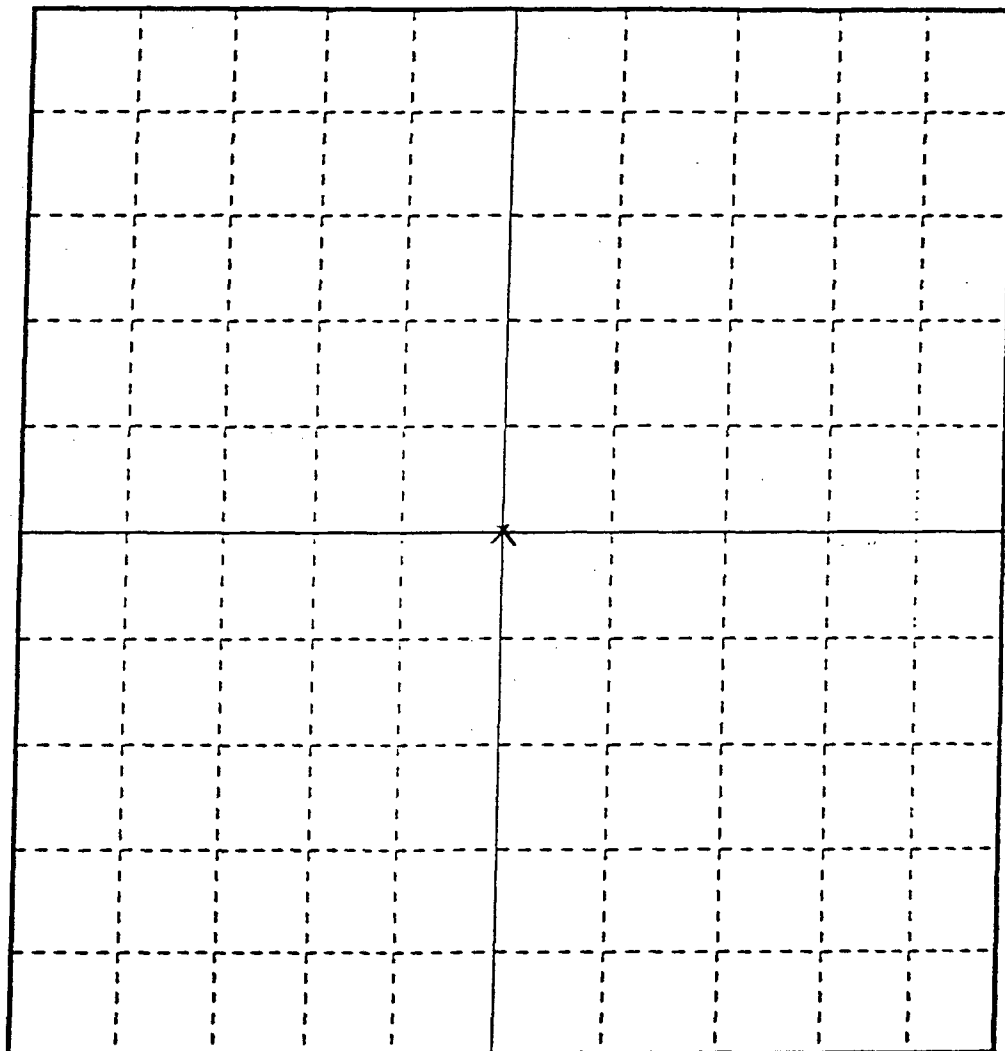
GPR.:	Antenna: 500MHz	Approx. Depth: 3015
	Range: 6015	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



Notes GPR - No anomalies detected, appearance of disturbed soil in record
 TW-6 - no anomalies detected
 CAT-P/R - no anomalies detected in either mode
 FX-3 - small metallic point targets, none large or linear
 - Boring is clear to drill

Project No.: 02/0112	Client: CH2M Hill
Location: SB29	
Date: 12-05-01	Time:

GPR:	Antenna: 500MHz	Approx. Depth: 30ms
	Range: 60ms	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



Notes GPR - No anomalies detected, appearance of disturbed soil in record

TW-6 - no anomalies detected

CAT-P/R - no anomalies detected in either mode

FX-3 - small metallic point targets, none large or linear

- Boring is clear to drill

Location: SB 77

Client: CHZ MH. II

Date: 12-05-01

Time:

GPR.:

Antenna: 500MHz Approx. Depth: 30ms

Range: 60ms File No.:

TW-6:

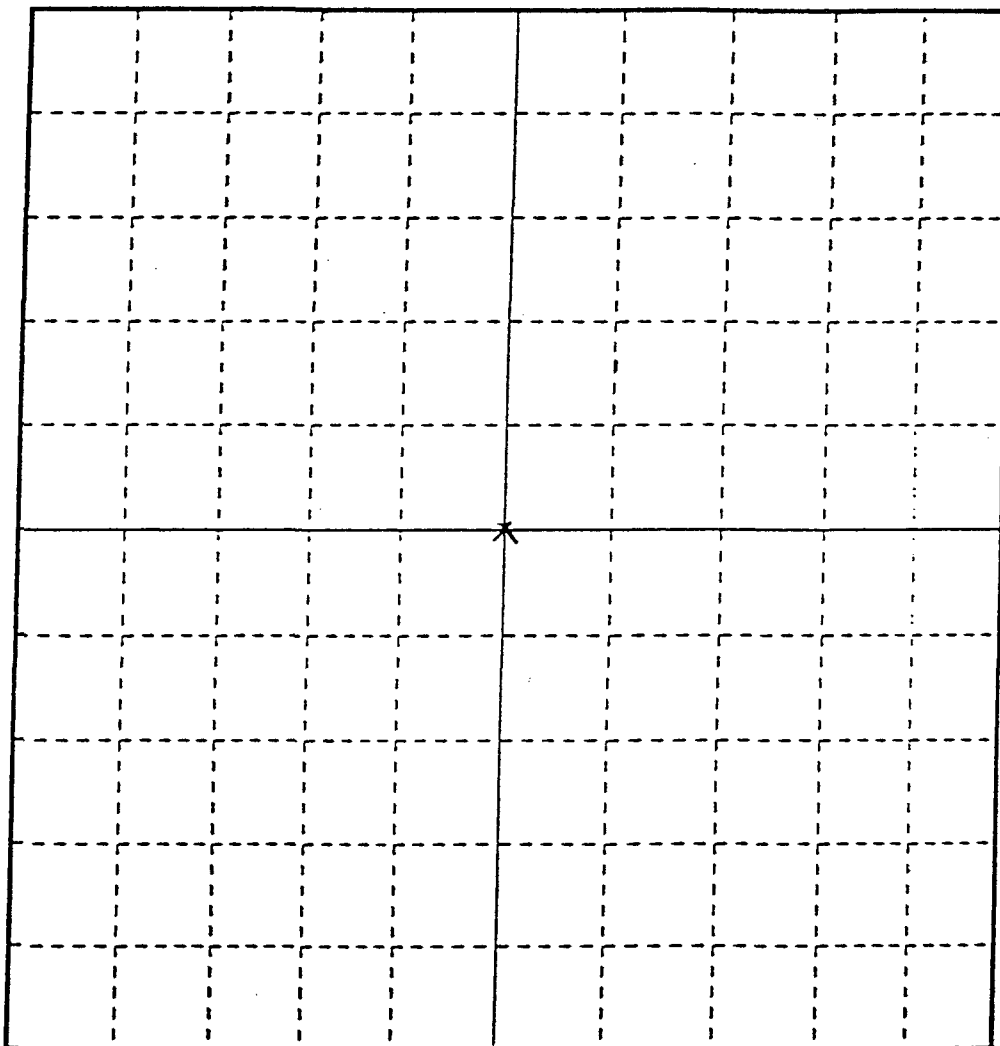
Setting: 5

C.A.T.:

Setting: (P) (R) G

FX-3:

Setting: 5



N →

Notes GPR - No anomalies detected, appearance of disturbed soil in record

TW-6 - no anomalies detected

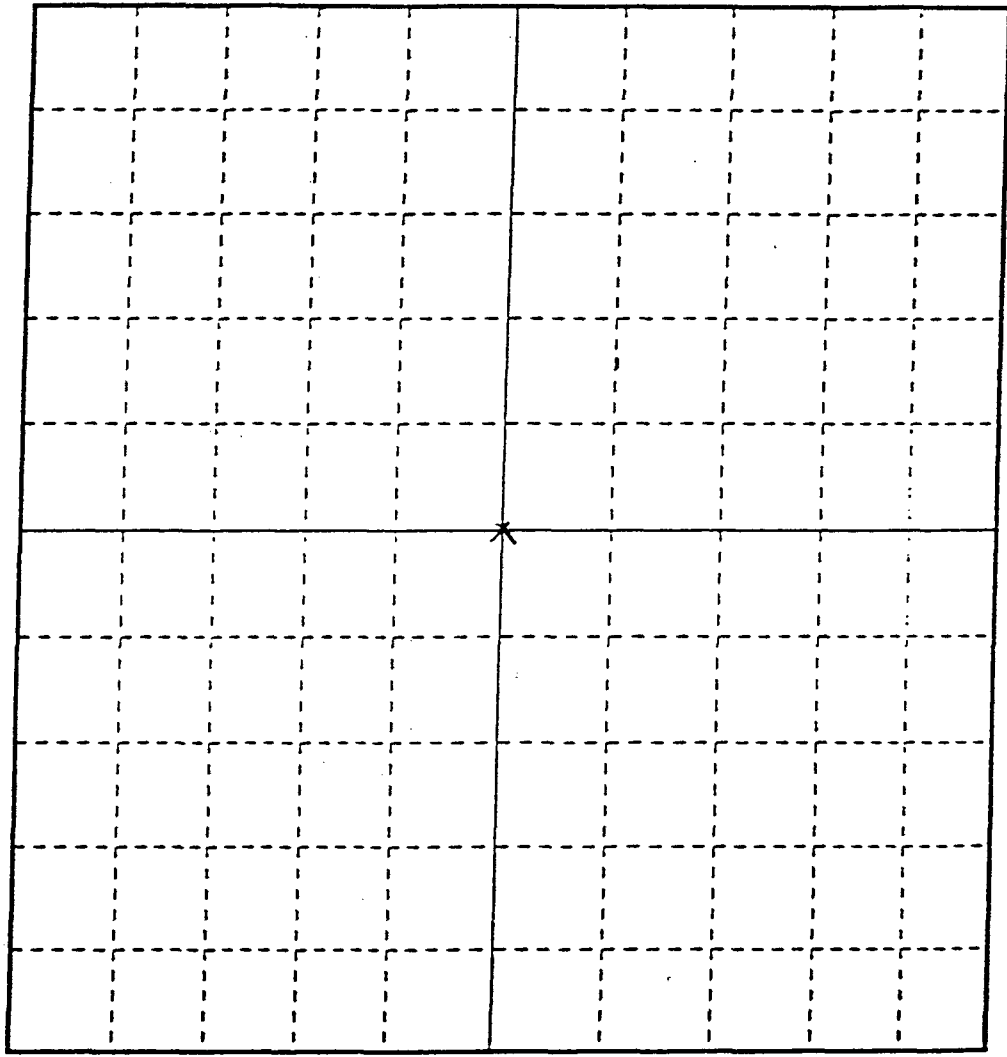
CAT-P/R - no anomalies detected in either mode

FX-3 - Small metallic point targets, none large or linear

- Boring is clear to drill

Project No.: 070112	Client: CH2M Hill
Location: SB-68	
Date: 12-05-01	Time:

GPR:	Antenna: 500 MHz	Approx. Depth: 3015
	Range: 6015	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



Notes GPR - No anomalies detected, appearance of disturbed soil in record

TW-6 - no anomalies detected

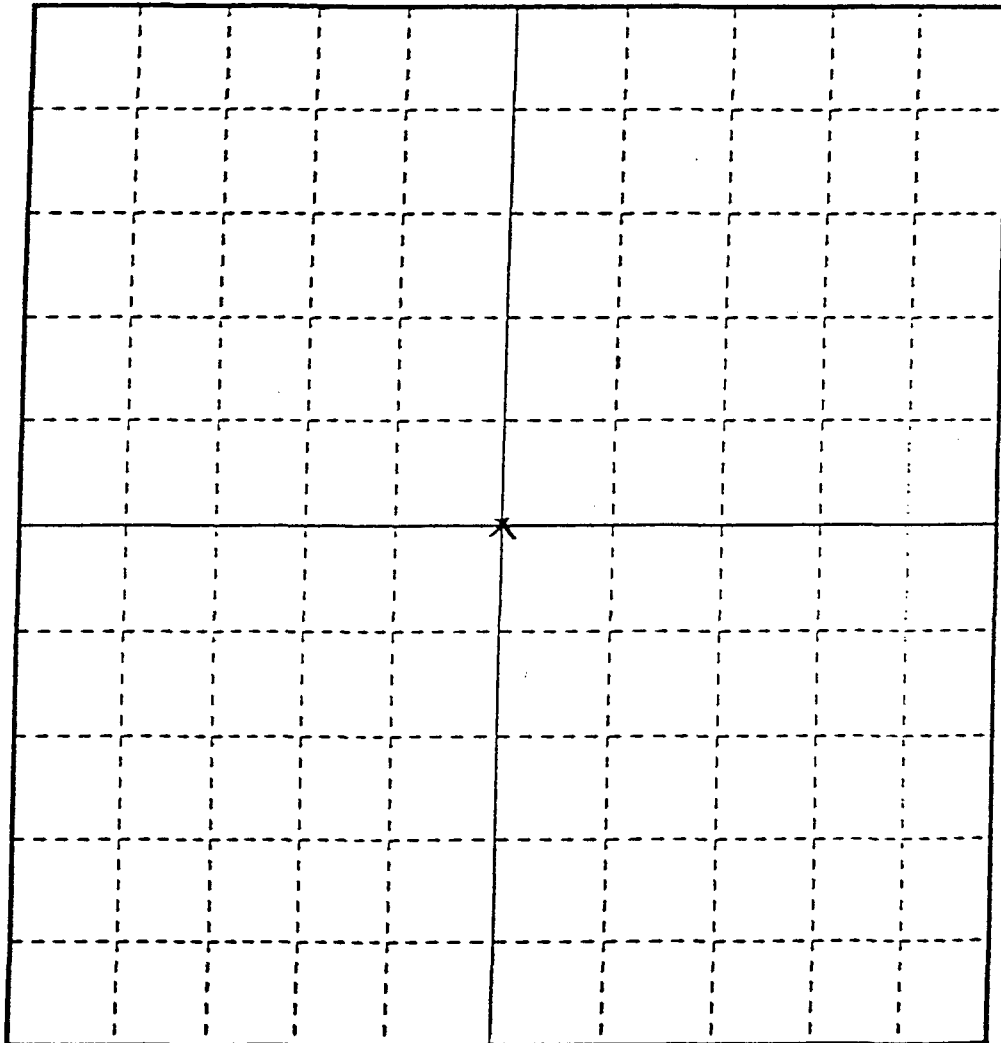
CAT-P/R - no anomalies detected in either mode

FX-3 - Small metallic point targets, none large or linear

- Boring is clear to drill

Location: 50301	Client: CH2M Hill
Date: 12-05-01	Time:

GPR.:	Antenna: 500MHz	Approx. Depth: 3015
	Range: 6015	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



Notes GPR - No anomalies detected, appearance of disturbed soil in record
 TW-6 - no anomalies detected
 CAT-P/R - no anomalies detected in either mode
 FX-3 - small metallic point targets, none large or linear
 - Boring is clear to drill

Location: S0303

Client: CH2M/Hill

Date: 12-05-01

Time:

GPR.:

Antenna: 500MHz Approx. Depth: 30ms

Range: 60ms File No.:

TW-6:

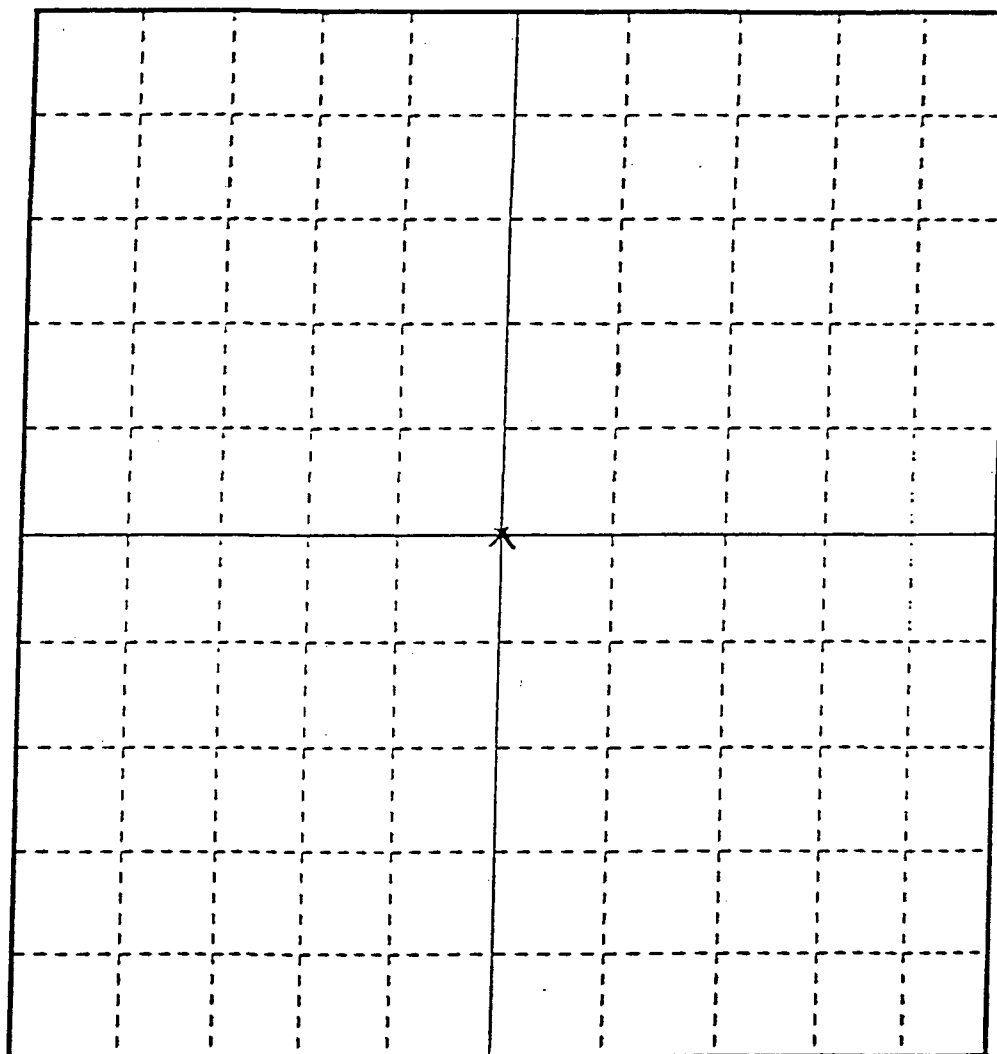
Setting: 5

C.A.T.:

Setting: (P) (R) G

FX-3:

Setting: 5



Notes GPR - No anomalies detected, appearance of disturbed soil in record

TW-6 - no anomalies detected

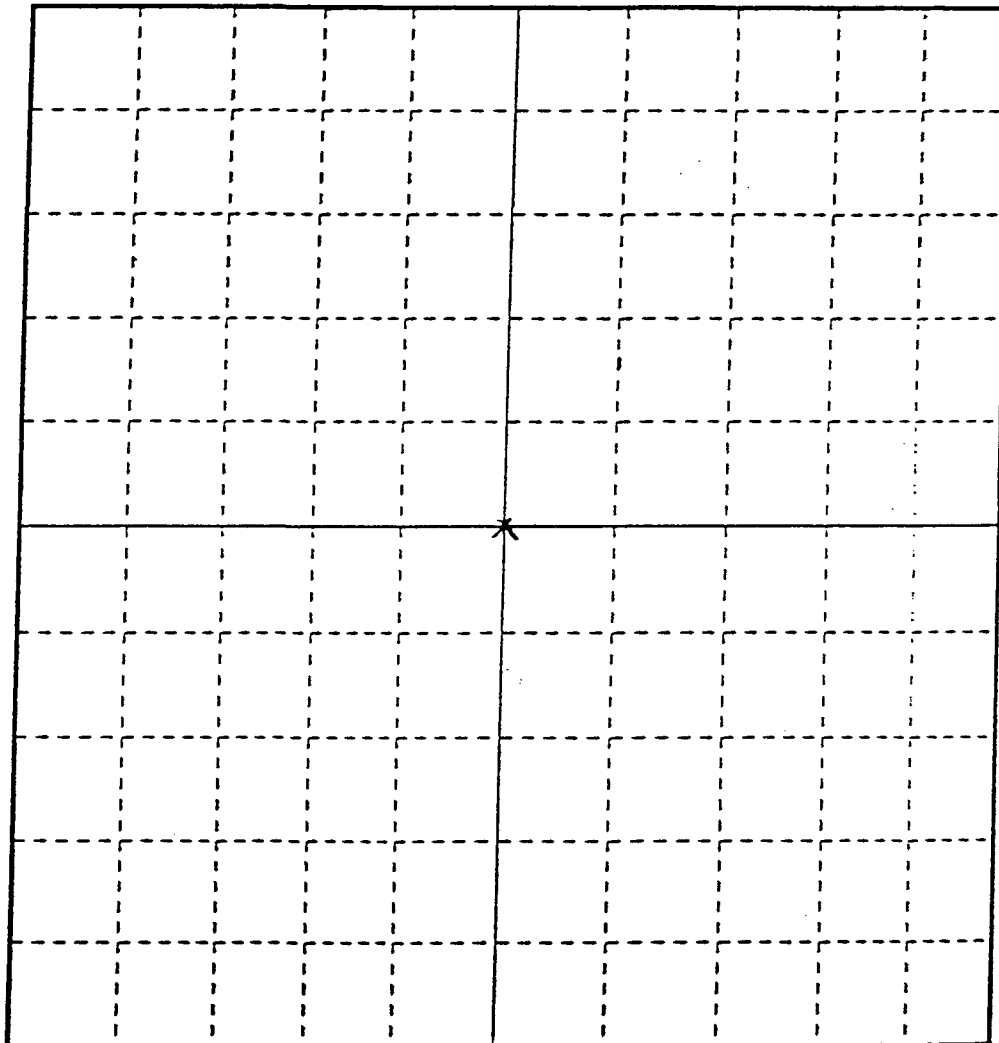
CAT-P/R - no anomalies detected in either mode

FX-3 - Small metallic point targets, none large or linear

- Boring is clear to drill

Location: SB78	Client: CH2MHILL
Date: 12-05-01	Time:

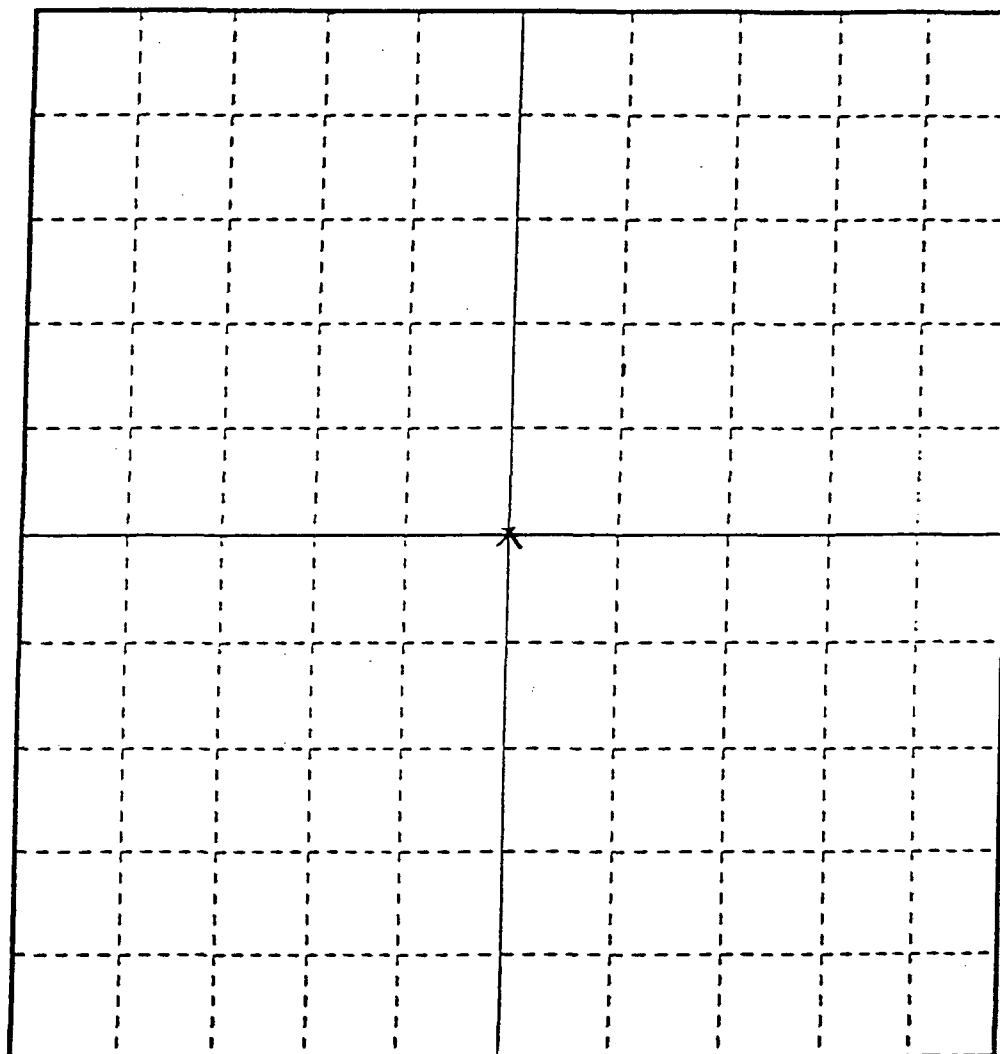
GPR.:	Antenna: 500MHz	Approx. Depth: 30ms
	Range: 60ms	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



Notes GPR - No anomalies detected, appearance of disturbed soil in record
 TW-6 - no anomalies detected
 CAT-P/R - no anomalies detected in either mode
 FX-3 - Small metallic point targets, none large or linear
 - Boring is clear to drill

Location: SB-79	Client: CH2MHILL
Date: 12-05-01	Time:

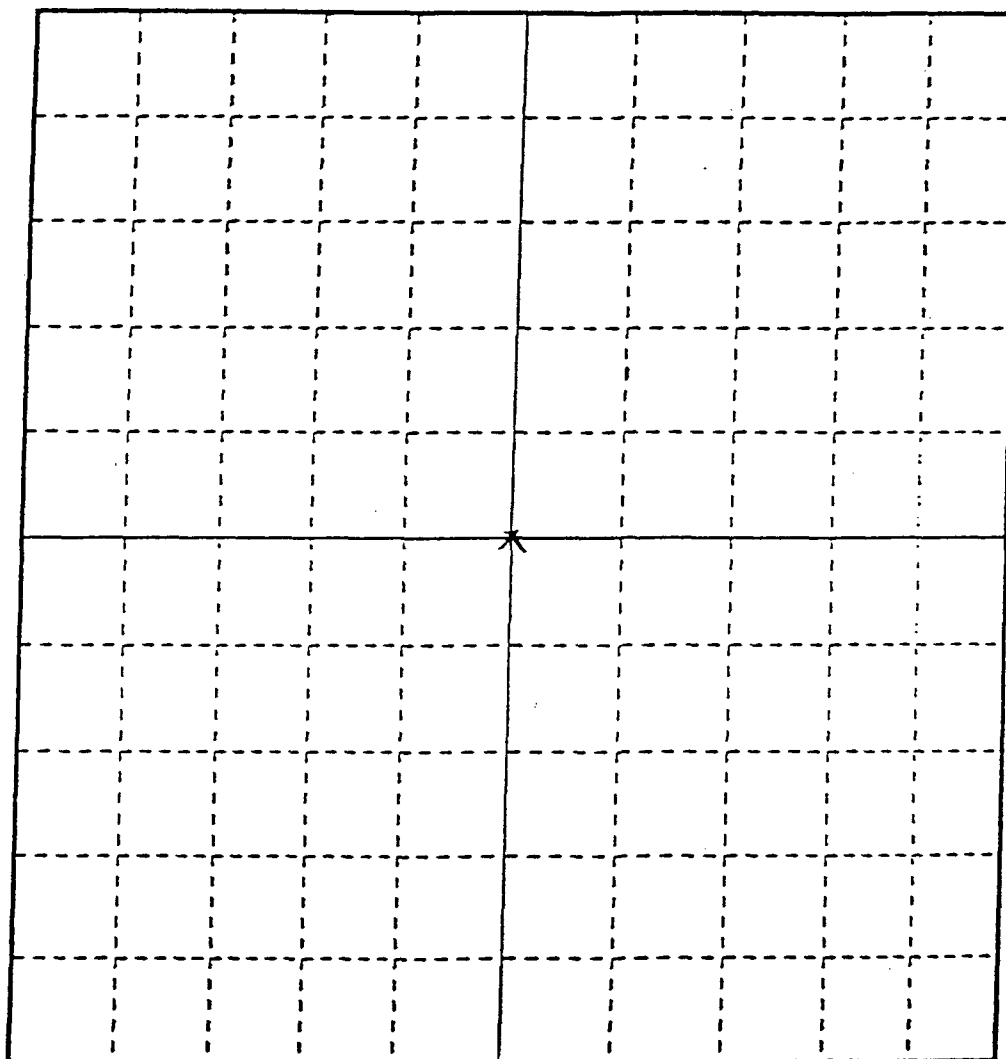
GPR.:	Antenna: 500MHz	Approx. Depth: 30ms
	Range: 60ms	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



Notes GPR - No anomalies detected, appearance of disturbed soil in record
 TW-6 - no anomalies detected
 CAT-P/R - no anomalies detected in either mode
 FX-3 - Small metallic point targets, none large or linear
 - Boring is clear to drill

Location: NW-22S Client: CH2M Hill
Date: 12-05-01 Time:

GPR.:	Antenna: 500MHz	Approx. Depth: 30ms
	Range: 60ms	File No.:
TW-6:	Setting: 5	
C.A.T.:	Setting: (P) (R) G	
FX-3:	Setting: 5	



N →

Notes GPR - No anomalies detected, appearance of disturbed soil in record

TW-6 - no anomalies detected

CAT-P/R - no anomalies detected in either mode

FX-3 - small metallic point targets, none large or linear

- Boring is clear to drill

Appendix C

Well Construction Diagrams

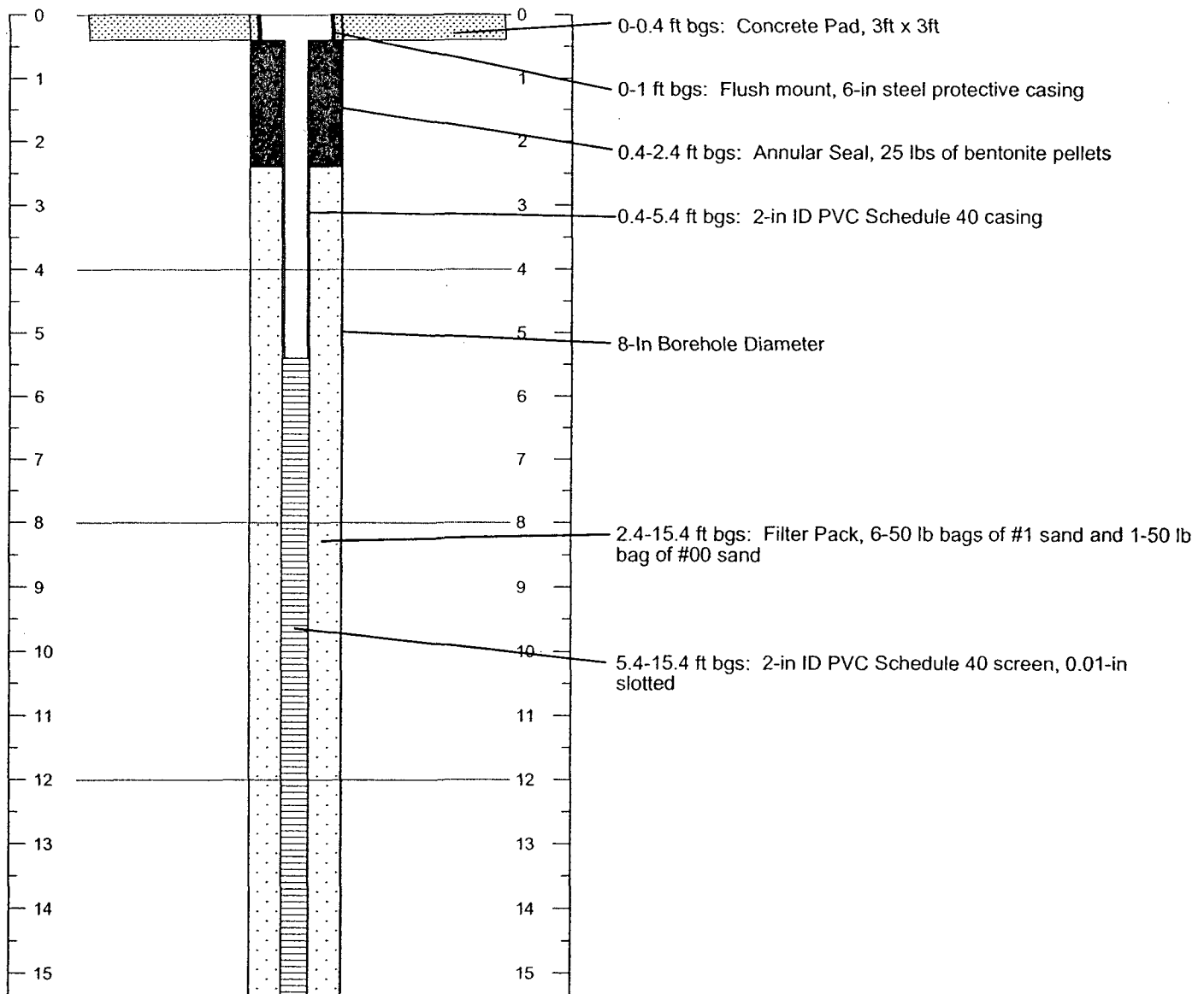
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 6.91 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 10/30/2001 9:00:00 AM FINISH: 10/30/2001 11:00:00 AM
WELL NUMBER / PERMIT: MA-MW12S / 31-62082
LOCATION: Martin Aaron Proper
FINISHED WELL DEPTH: 15.4 ft bgs
INNER CASING ELEVATION(S): 6.74 ft msl
FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398434.287 feet EASTING: 318492.002 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION



NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302283

**CH2MHILL**

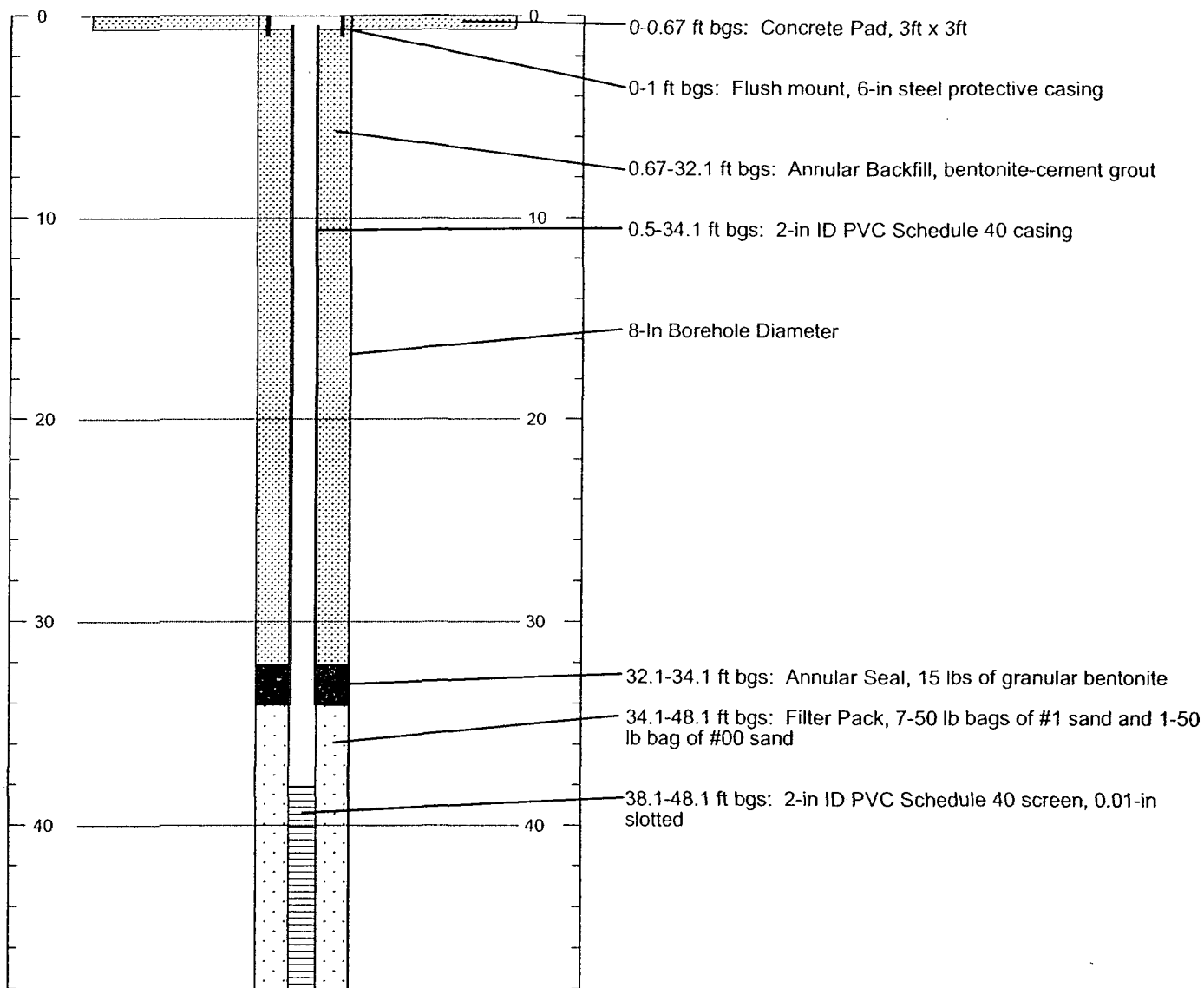
WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 6.56 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 11/05/2001 11:20:00 AM FINISH: 11/05/2001 2:30:00 PM

WELL NUMBER / PERMIT: **MA-MW12M** / 31-62085
LOCATION: Martin Aaron Proper
FINISHED WELL DEPTH: 48.1 ft bgs
INNER CASING ELEVATION(S): 6.22 ft msl
FOREMAN: CH2M GEOLOGIST: Mark Eshbaugh
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398423.444 feet EASTING: 318484.55 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION



NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302284

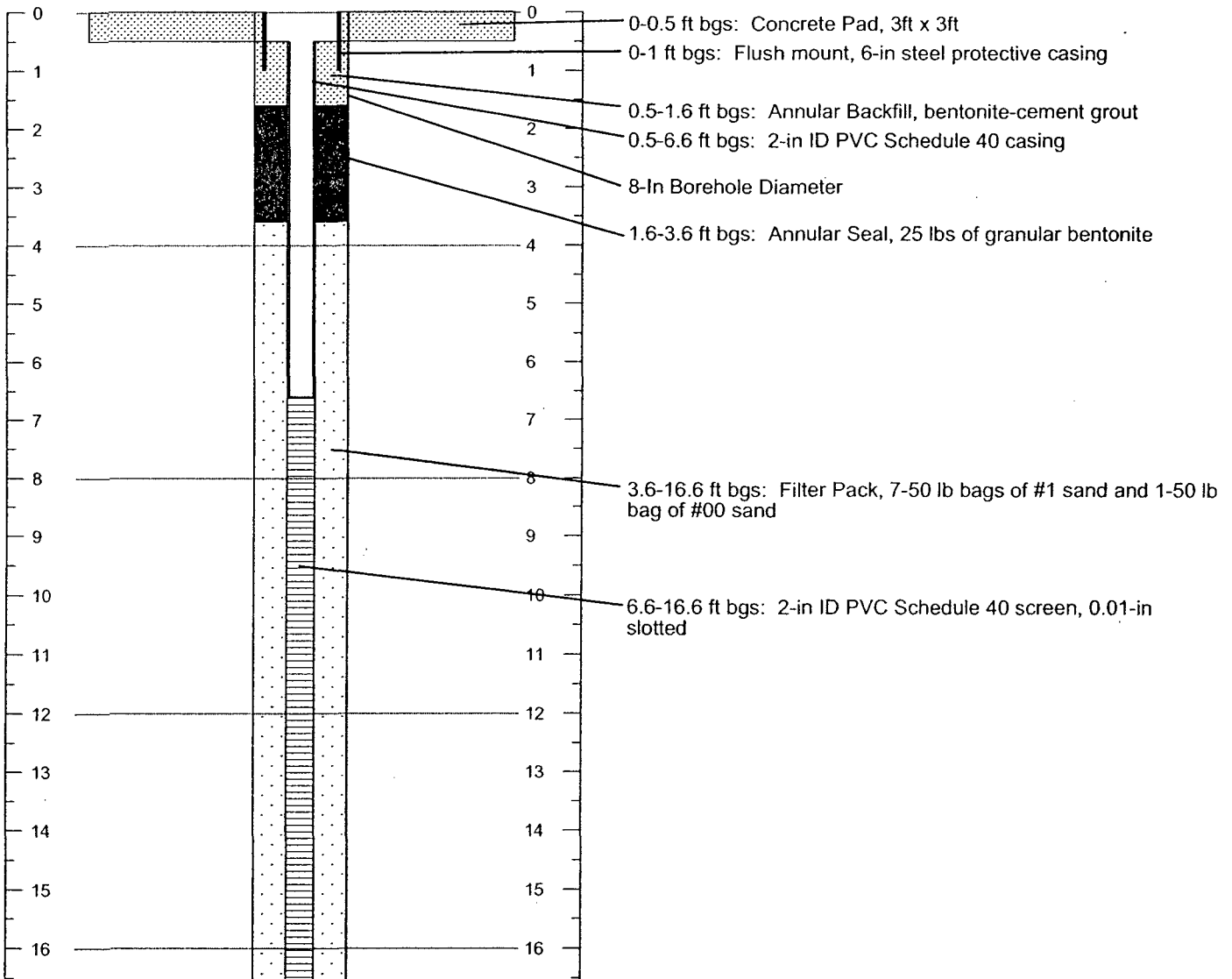
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2 WELL NUMBER / PERMIT: **MA-MW13S** / 31-62083
PROJECT NUMBER: 164453 LOCATION: Martin Aaron Proper
PROJECT NAME: EPA-Martin Aaron FINISHED WELL DEPTH: 16.6 ft bgs
SURFACE ELEVATION: 7.86 feet msl INNER CASING ELEVATION(S): 7.66 ft msl
DRILLING CONTRACTOR: Unit-Tech FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
START: 10/30/2001 12:40:00 PM FINISH: 10/30/2001 3:00:00 PM NORTHING: 398438.594 feet EASTING: 318808.35 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION



NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302285

DeCaro, David/PHL

From: DeCaro, David/PHL
Sent: March 07, 2003 8:28 AM
To: Zarlinski, Stephen/PHL; Holcomb, Bernard/PHL; Clayton, Michael/PHL
Subject: RE: DEGT-AGT NY Proposal

See my responses below and the attached revised cost sheet.

-----Original Message-----

From: Zarlinski, Stephen/PHL
Sent: March 06, 2003 5:32 PM
To: DeCaro, David/PHL; Holcomb, Bernard/PHL; Clayton, Michael/PHL
Subject: FW: DEGT-AGT NY Proposal

I have made several comments in "comment mode" on the attached DEGT file. Just a few other comments;

1. Terry Doyles original email referenced 3 projects (1 NJ/2 NY) and specifically broke out the inspection from the Hudson River ground work? Do these need to be broken out better? I will look to Bernie since he knows HIS client.
[DD] Spoke with Bernie, this is correct as one project.

2. Secondly, I will approve the cost --- with a BUT --- you need to revisit (and send me revised) for the following:

- a. Your expense marks are 0% except on subcontractors which is 5%. [DD] - Completed
- b. Therefore, your expenses are too high (if you want to be conservative revenue wise --- this is ok --- however, this is going to make your margin be too high from what you will actually deliver. [DD] Completed
- c. You need to update your "internal" mark and service centers to reflect 2003 rates --- see Clayton's spreadsheet --- for example service center charges changed, and direct labor mark up is not 35% but 37.5%... [DD] Completed - FYI Project Pricing Tool from Intranet has not been updated for 2003 rates

3. Do you need to insert any Goodwin information? [DD] No, CH2M HILL will coordinate the initial SHPO filing and sub Goodwin if the results require additional work.

Address these changes. If Bernie is ok, Please consider this my PD approval.

-----Original Message-----

From: DeCaro, David/PHL
Sent: March 06, 2003 2:46 PM
To: Zarlinski, Stephen/PHL; Holcomb, Bernard/PHL; Clayton, Michael/PHL
Subject: DEGT-AGT NY Proposal

Gentleman:

Attached is the proposal and cost Table.

Please review and let me know any issues or questions.
I will provide a 374A shortly.

DD

David R. De Caro

302286

03/07/2003

Project Scientist
CH2M HILL
1700 Market Street, Suite 1600
Philadelphia, PA 19103-3916
Tel: 215/563-4244 ext 441
EFax: 267/ 675-4512
Mobile: 484/ 467-3345
E-Mail: ddecaro@ch2m.com

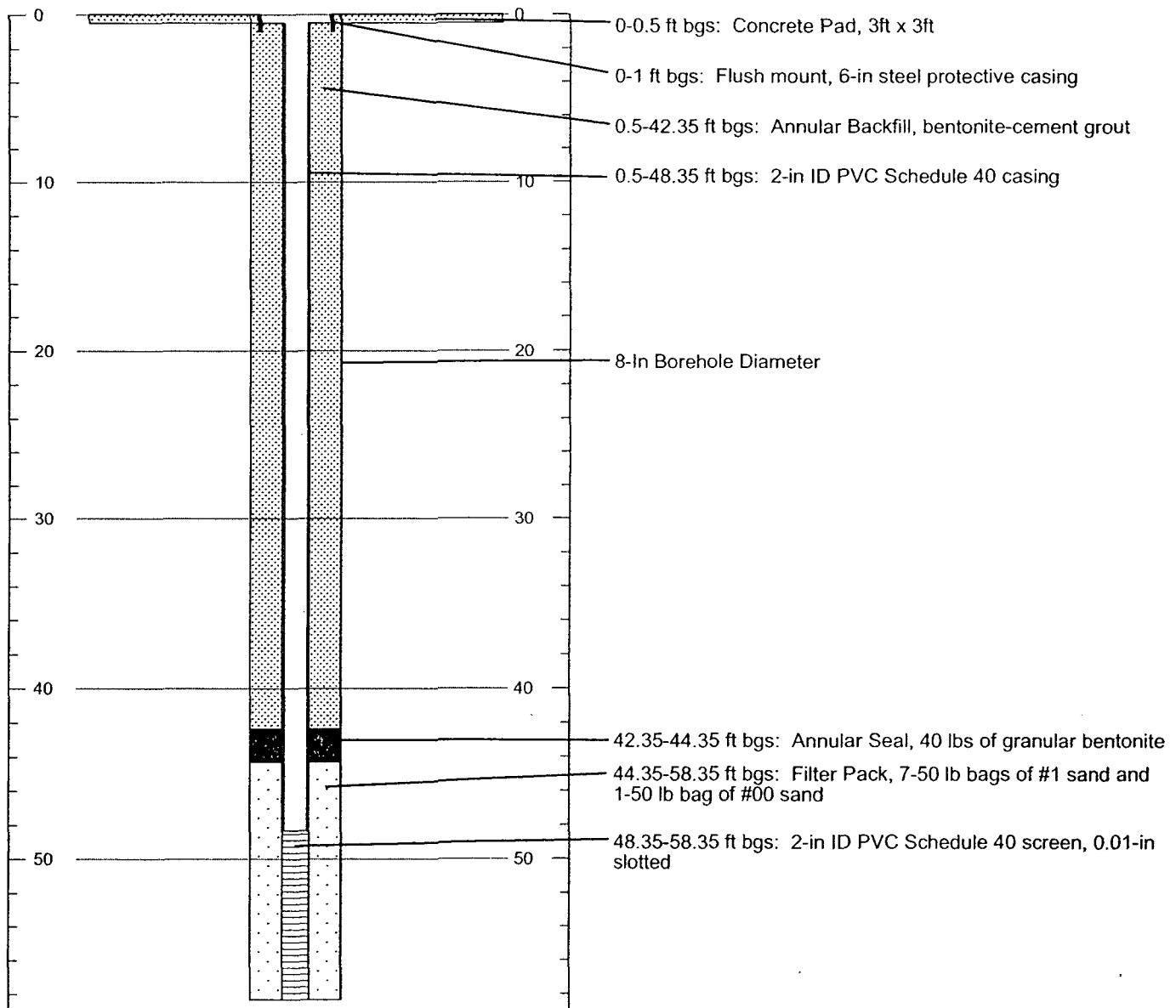
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 7.59 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 11/02/2001 8:00:00 AM
FINISH: 11/02/2001 1:00:00 PM
WELL NUMBER / PERMIT: MA-MW13M / 31-62086
LOCATION: Martin Aaron Proper
FINISHED WELL DEPTH: 58.35 ft bgs
INNER CASING ELEVATION(S): 7.33 ft msl
FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398446.578 feet EASTING: 318814.378 feet

DEPTH-BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302288

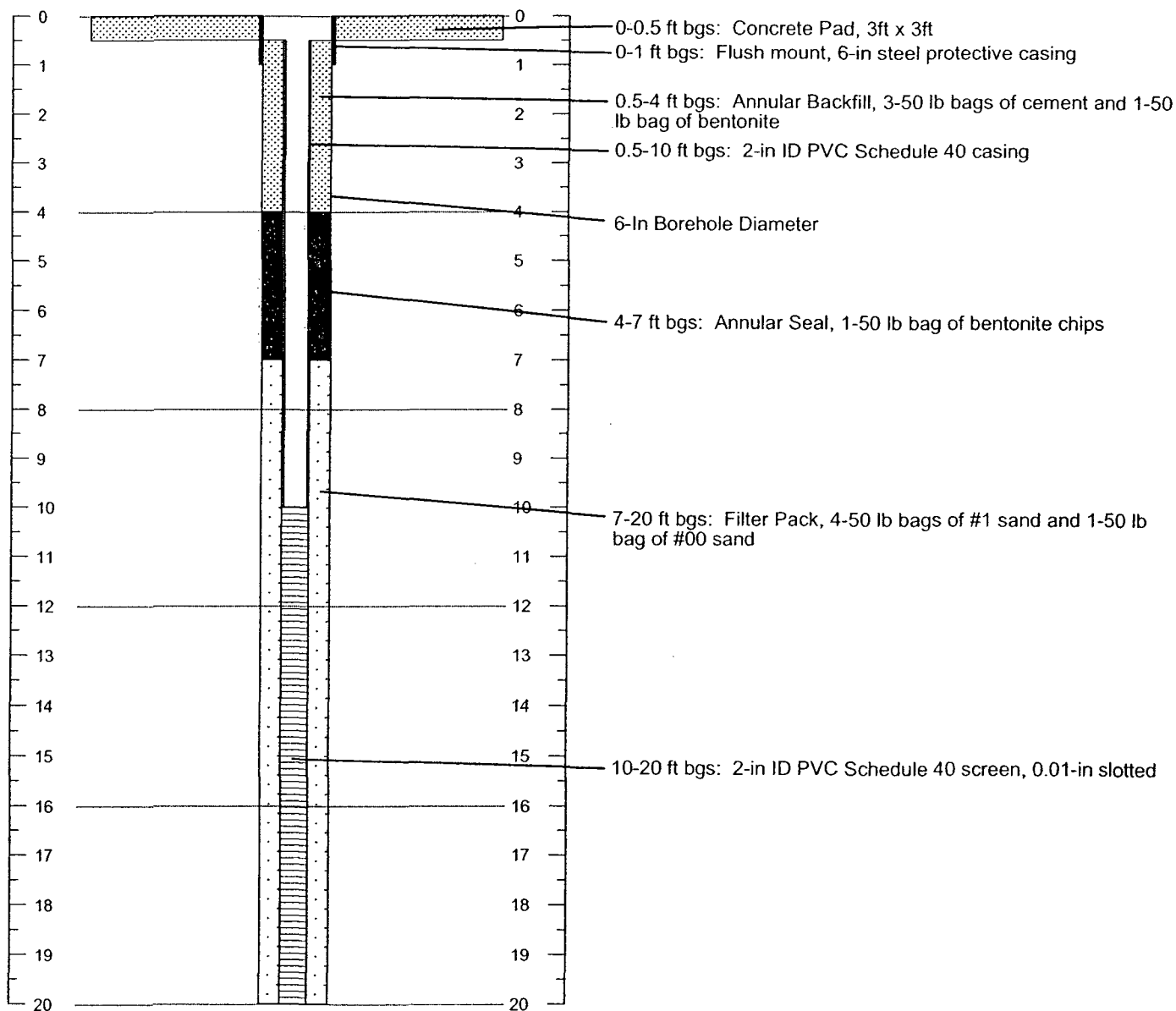
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2 WELL NUMBER / PERMIT: **MA-MW14S** / 31-62519
PROJECT NUMBER: 164453 LOCATION: Martin Aaron Proper
PROJECT NAME: EPA-Martin Aaron FINISHED WELL DEPTH: 20 ft bgs
SURFACE ELEVATION: 6.60 feet msl INNER CASING ELEVATION(S): 6.26 ft msl
DRILLING CONTRACTOR: Unit-Tech FOREMAN: CH2M GEOLOGIST: Winkler/Rech
DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
START: 01/10/2002 9:15:00 AM FINISH: _____ NORTHING: 398382.355 feet EASTING: 318512.705 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION



NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302289

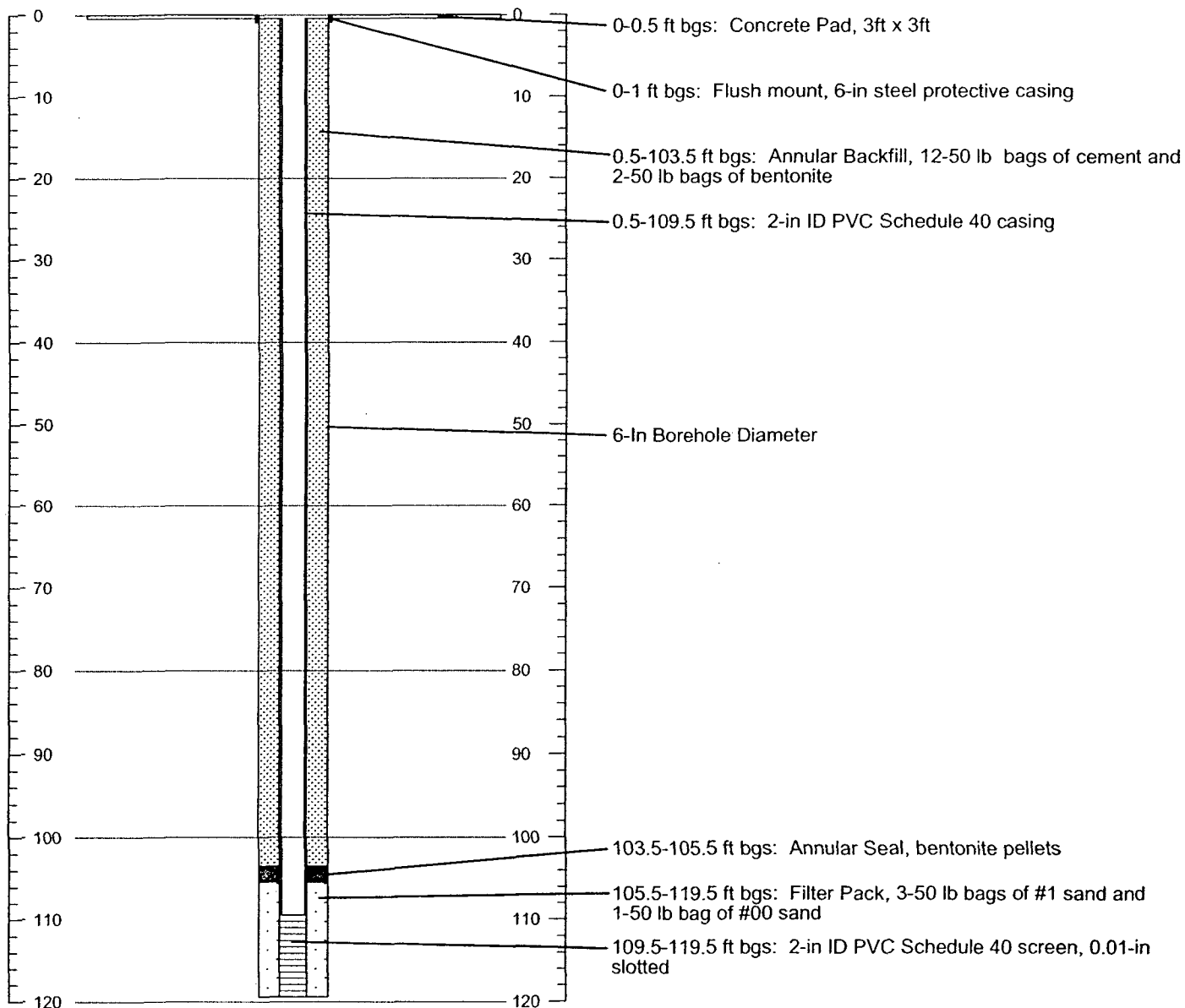
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 6.60 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit
START: FINISH:
WELL NUMBER / PERMIT: MA-MW14R / 31-62520
LOCATION: Martin Aaron Proper
FINISHED WELL DEPTH: 119.5 ft bgs
INNER CASING ELEVATION(S): 6.18 ft msl
FOREMAN: CH2M GEOLOGIST: Winkler/Rech
DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
NORTHING: 398382.809 feet EASTING: 318528.828 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302290

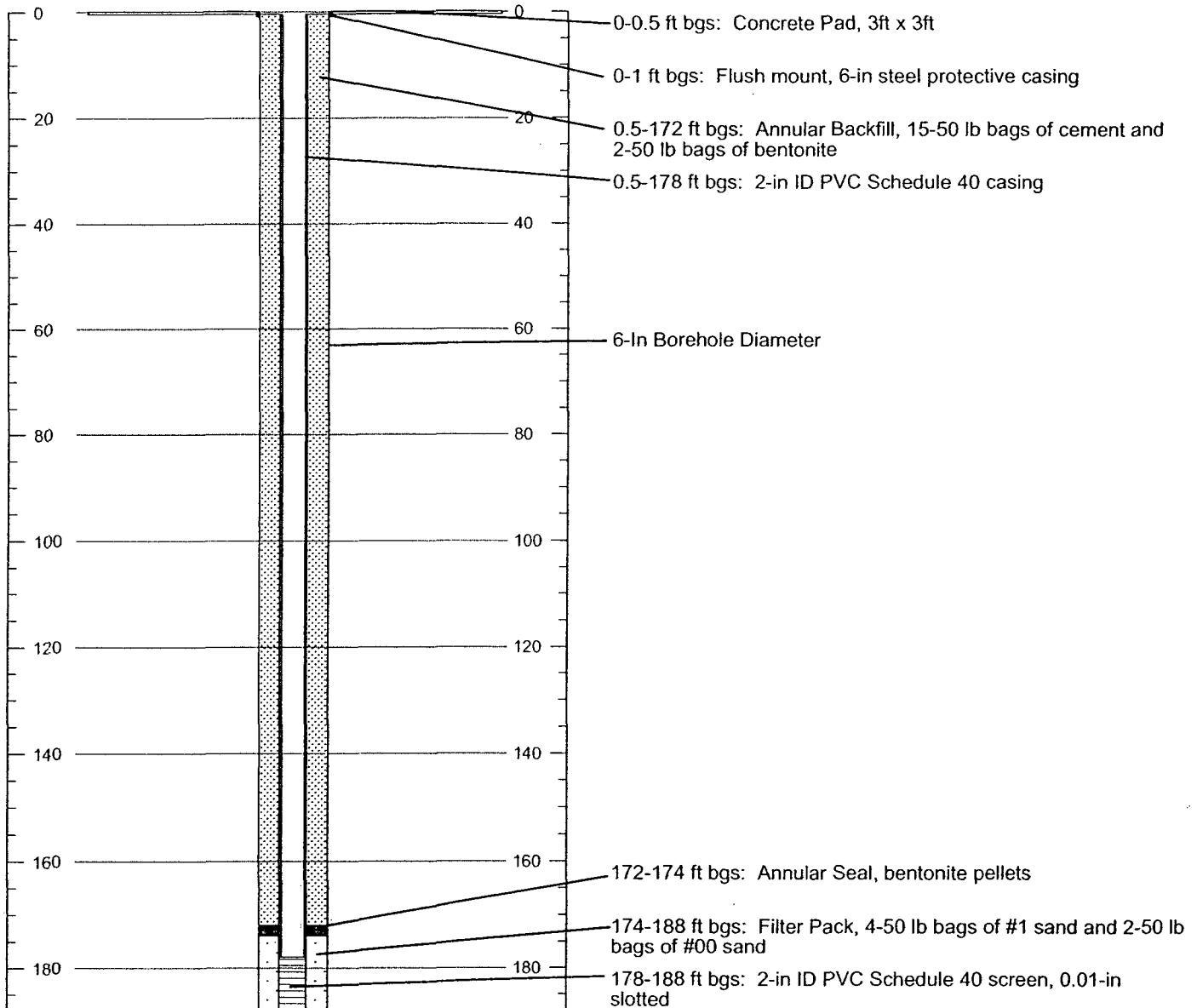
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 6.55 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Mud Rotary
START: 01/02/2002 7:20:00 PM
FINISH:
WELL NUMBER / PERMIT: **MA-MW14D** / 31-62521
LOCATION: Martin Aaron Proper
FINISHED WELL DEPTH: 188 ft bgs
INNER CASING ELEVATION(S): 6.15 ft msl
FOREMAN: CH2M GEOLOGIST: Winkler/Rech
DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
NORTHING: 398382.657 feet EASTING: 318539.014 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302291

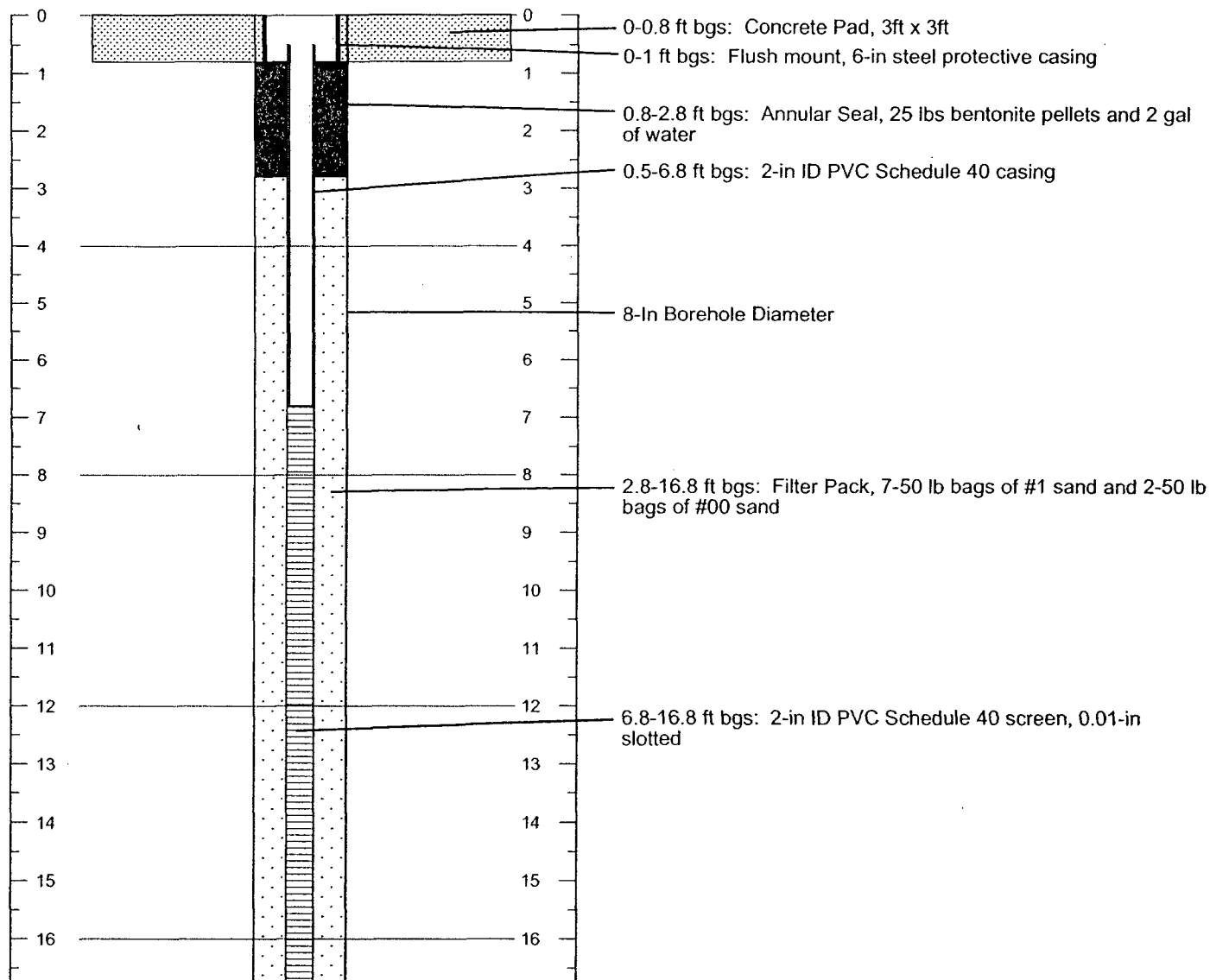
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 7.67 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 10/29/2001 11:00:00 AM
FINISH: 10/29/2001 12:00:00 PM
WELL NUMBER / PERMIT: MA-MW15S / 31-62080
LOCATION: Martin Aaron Proper
FINISHED WELL DEPTH: 16.8 ft bgs
INNER CASING ELEVATION(S): 7.03 ft msl
FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398518.442 feet EASTING: 318524.696 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302292

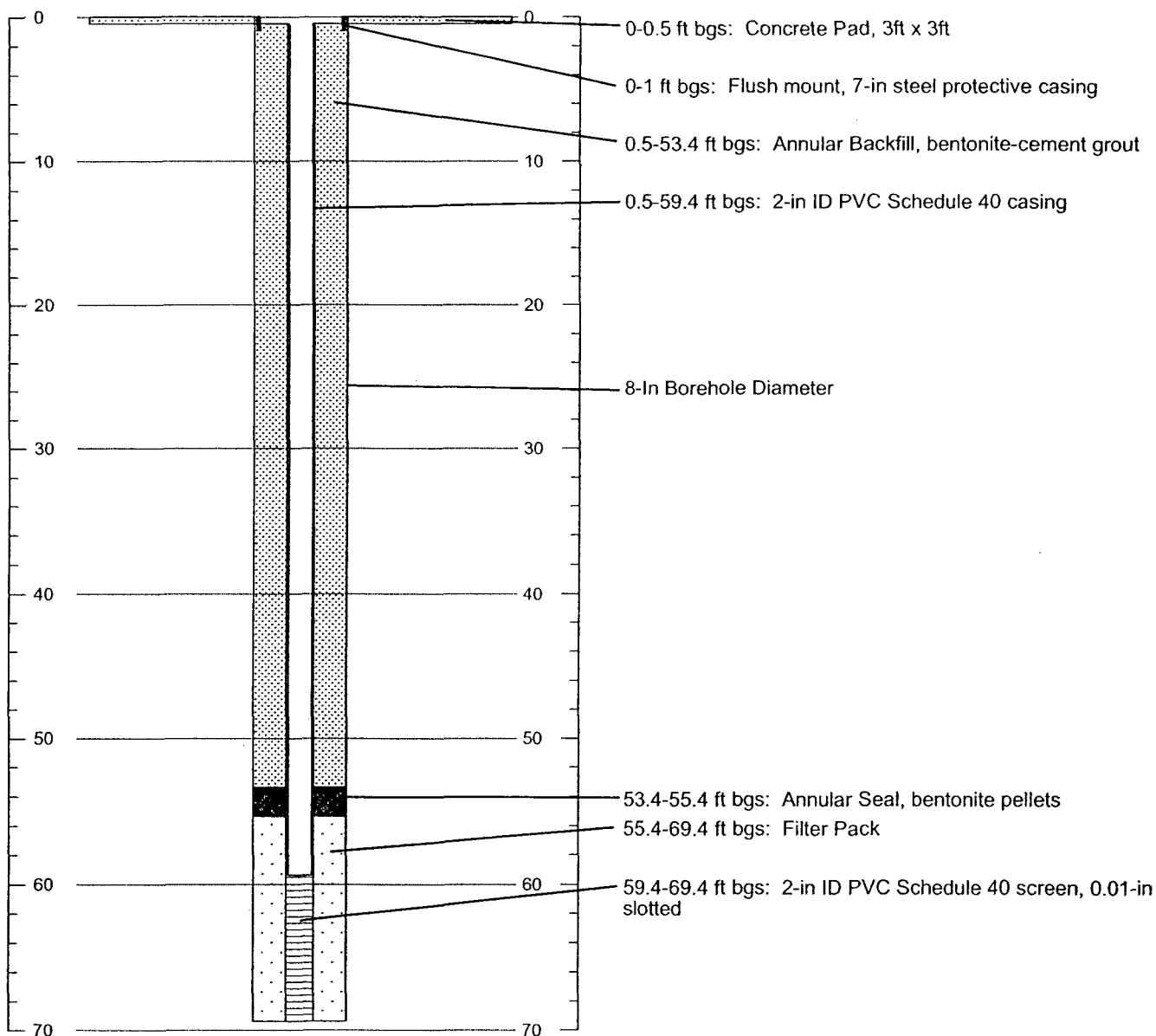
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 7.15 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 10/31/2001 7:45:00 AM FINISH: 11/01/2001 1:34:00 PM
WELL NUMBER / PERMIT: MA-MW15M / 31-62084
LOCATION: Martin Aaron Proper
FINISHED WELL DEPTH: 69.4 ft bgs
INNER CASING ELEVATION(S): 6.92 ft msl
FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398510.341 feet EASTING: 318537.69 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302293

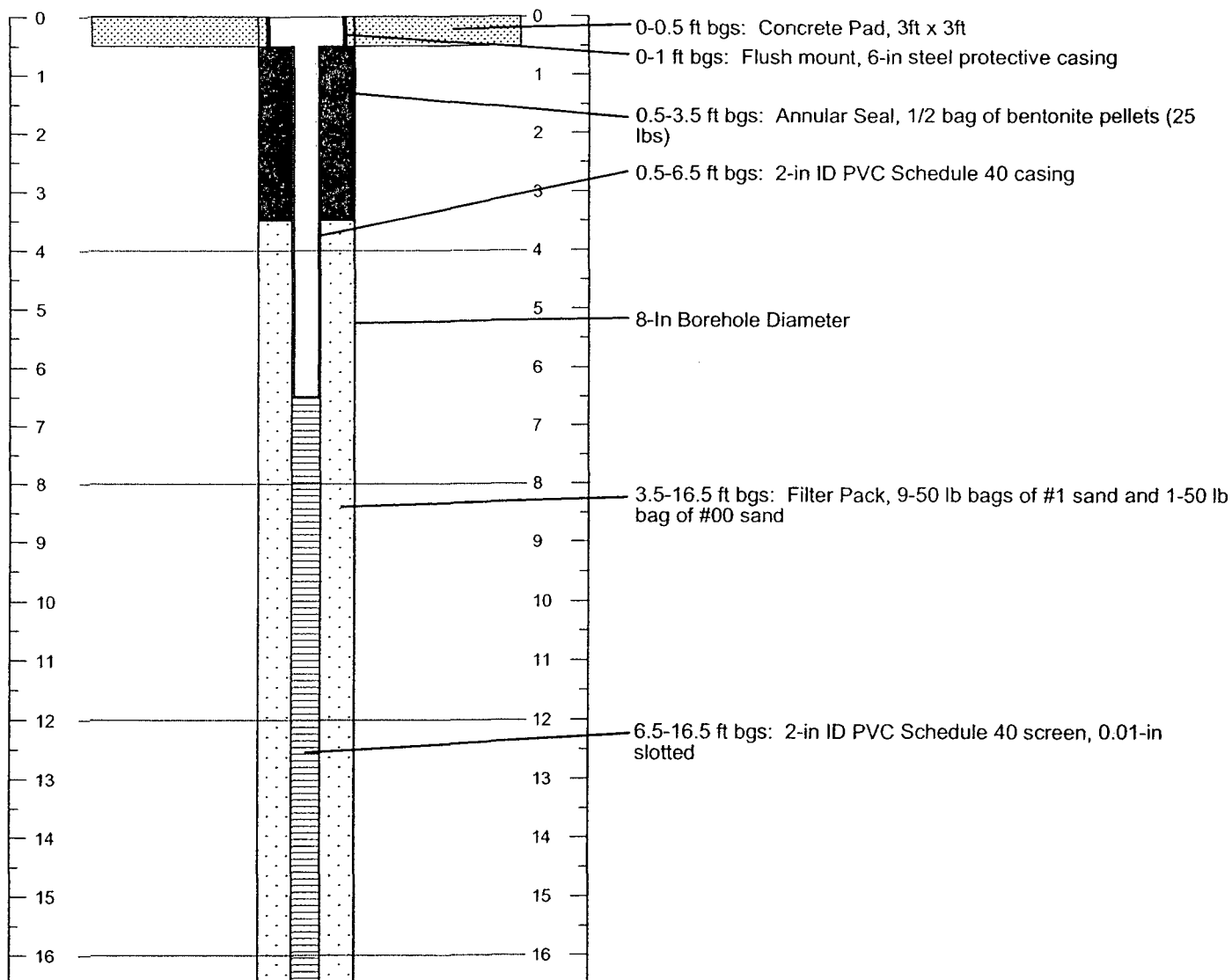
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 7.69 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 10/29/2001 2:30:00 PM FINISH: 10/29/2001 5:00:00 PM
WELL NUMBER / PERMIT: MA-MW16S / 31-62081
LOCATION: Martin Aaron Proper
FINISHED WELL DEPTH: 16.5 ft bgs
INNER CASING ELEVATION(S): 7.53 ft msl
FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398718.727 feet EASTING: 318788.316 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION



NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302294

**CH2MHILL**

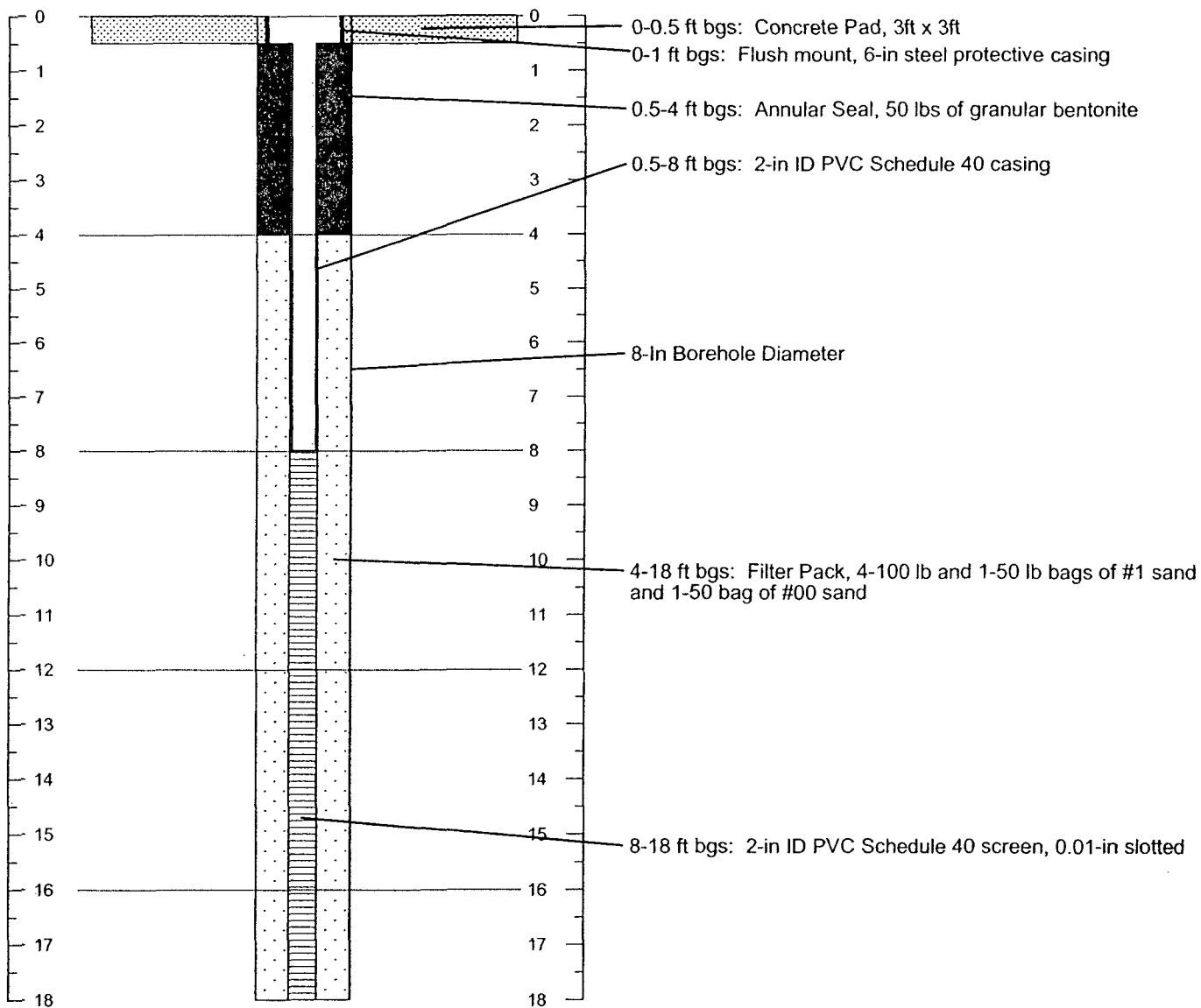
WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 7.20 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 11/07/2001 7:30:00 AM FINISH: 11/01/2001 9:00:00 AM

WELL NUMBER / PERMIT: **MA-MW17S** / 31-62172
LOCATION: Corner of Everett and Broadway
FINISHED WELL DEPTH: 18 ft bgs
INNER CASING ELEVATION(S): 7.00 ft msl
FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398778.192 feet EASTING: 318422.174 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302295

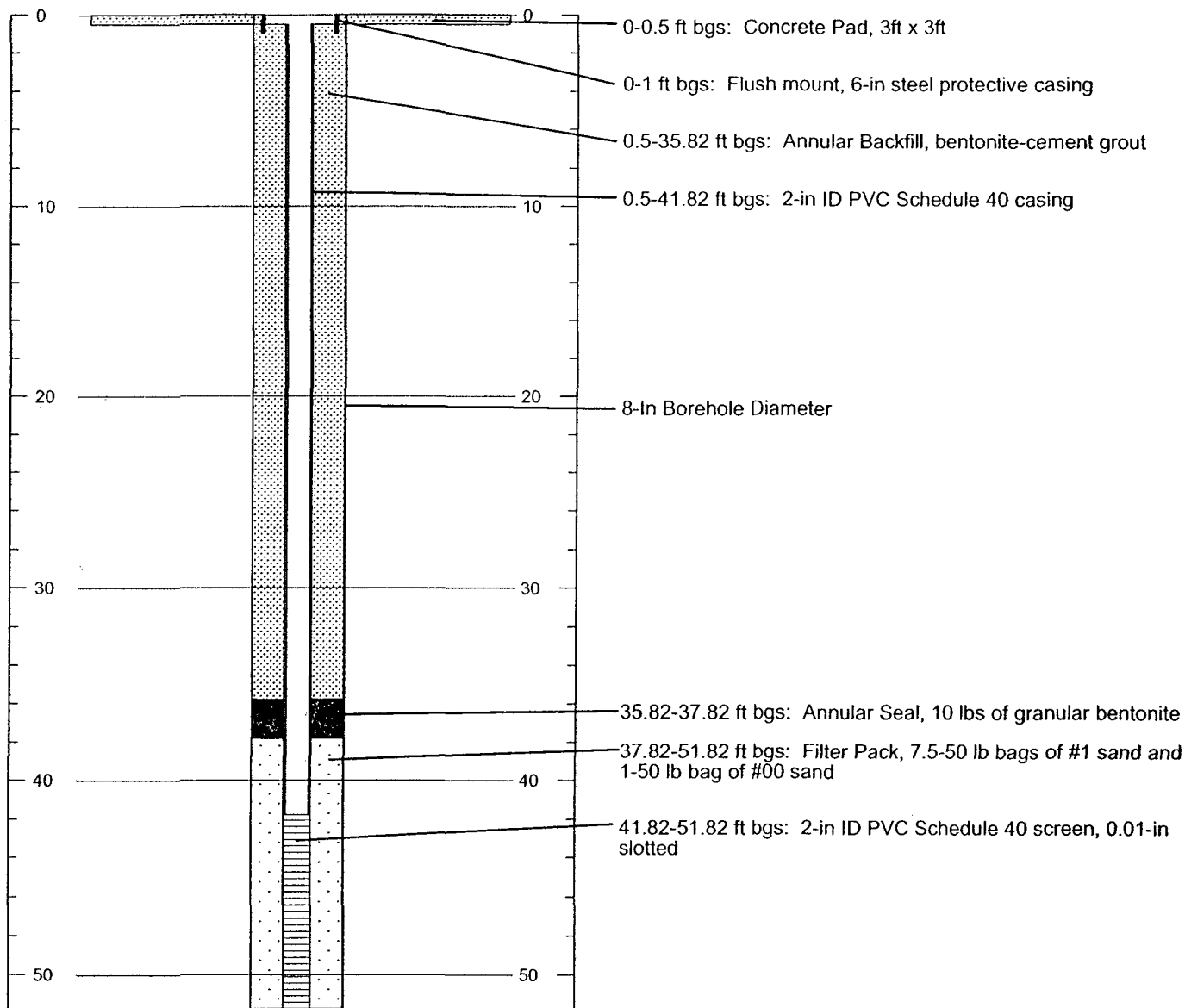
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 7.33 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 11/08/2001 7:15:00 AM
FINISH: 11/08/2001 11:30:00 AM
WELL NUMBER / PERMIT: MA-MW17M / 31-62173
LOCATION: Corner of Broadway and Everett Streets
FINISHED WELL DEPTH: 51.82 ft bgs
INNER CASING ELEVATION(S): 7.02 ft msl
FOREMAN: CH2M GEOLOGIST: Mark Eshbaugh
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398779.556 feet EASTING: 318434.699 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302296

**CH2MHILL**

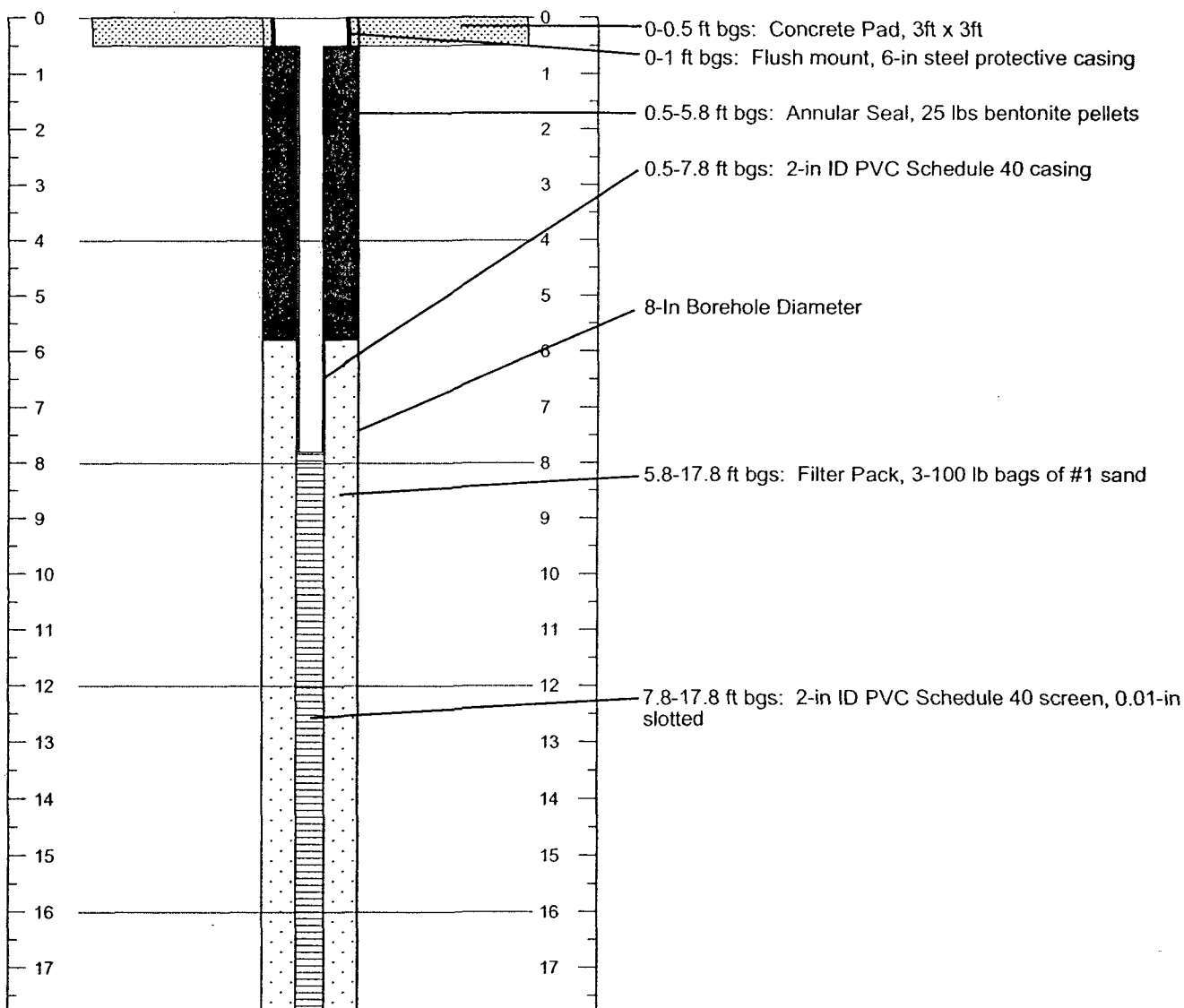
WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 7.44 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 11/06/2001 7:35:00 AM
FINISH: 11/05/2001 10:30:00 AM

WELL NUMBER / PERMIT: MA-MW18S / 31-62177
LOCATION: Everett Street
FINISHED WELL DEPTH: 17.8 ft bgs
INNER CASING ELEVATION(S): 7.16 ft msl
FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398827.975 feet EASTING: 318590.588 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302297

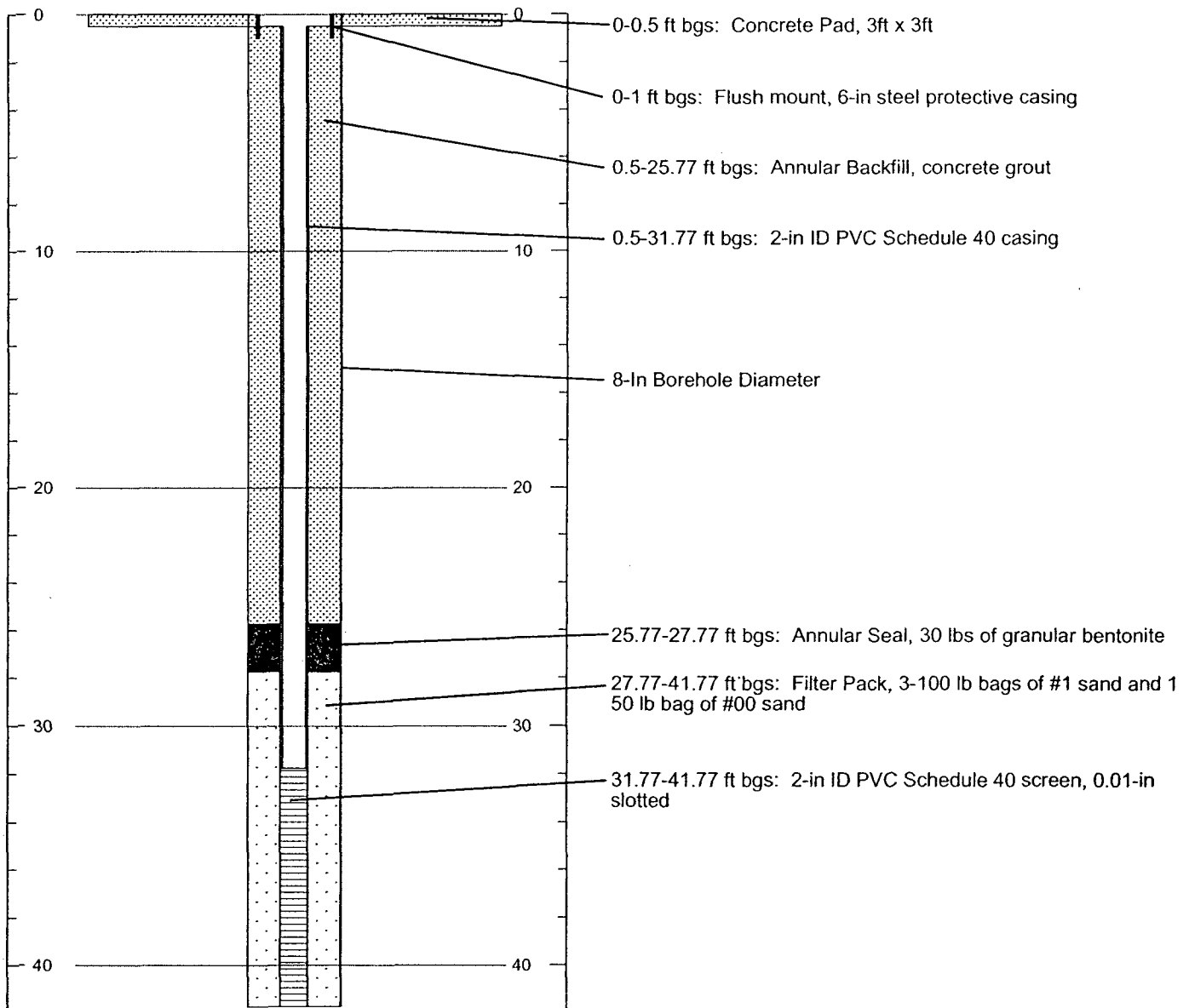
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 7.62 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 11/05/2001 6:30:00 AM
FINISH: 11/09/2001 9:30:00 AM
WELL NUMBER / PERMIT: MA-MW18M / 31-62178
LOCATION: Everett Street
FINISHED WELL DEPTH: 41.77 ft bgs
INNER CASING ELEVATION(S): 7.40 ft msl
FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398829.866 feet EASTING: 318601.912 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION



NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302298

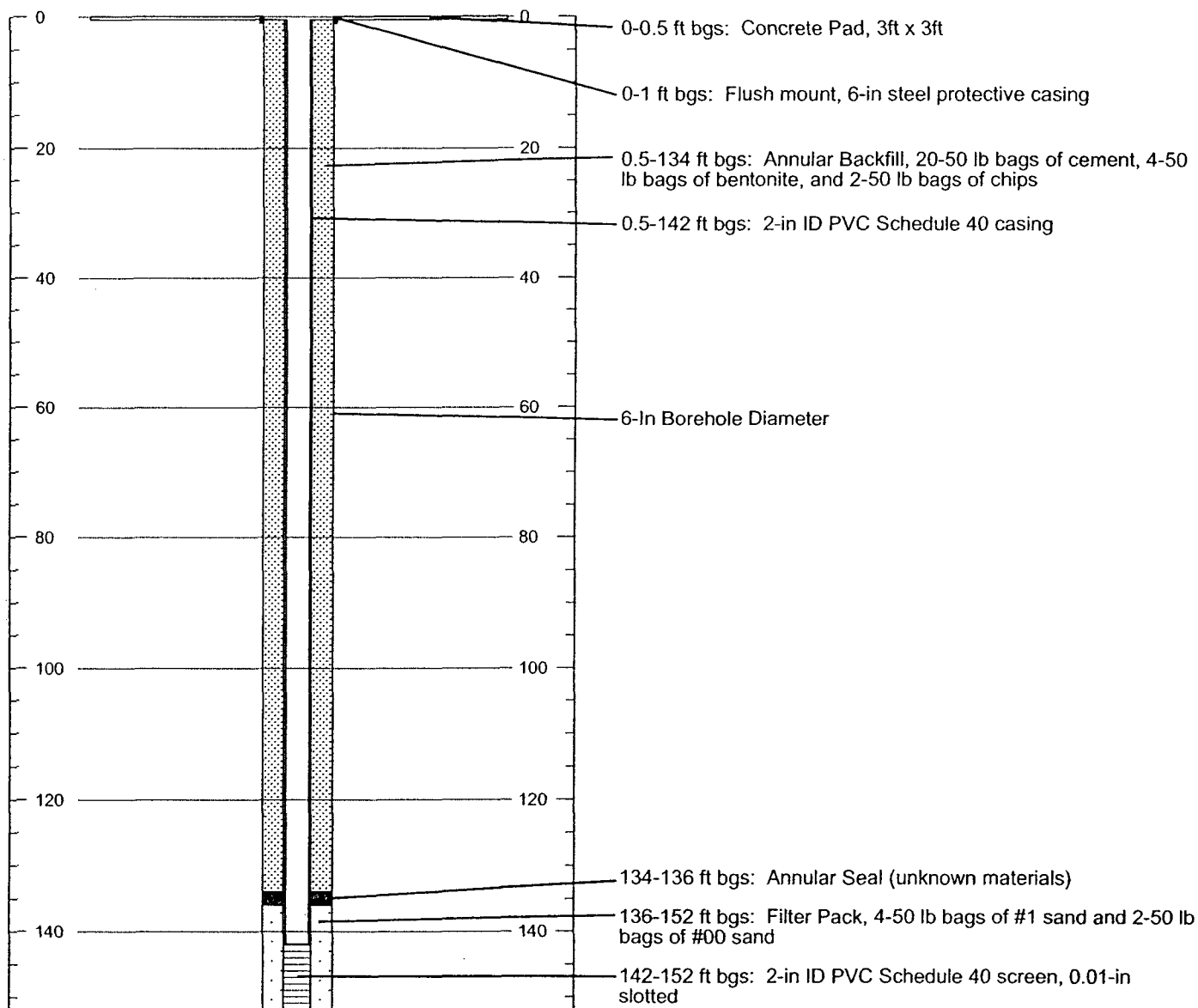
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2 WELL NUMBER / PERMIT: **MA-MW18D** / 31-62179
PROJECT NUMBER: 164453 LOCATION: Everett St, between Broadway and Sixth
PROJECT NAME: EPA-Martin Aaron FINISHED WELL DEPTH: 152 ft bgs
SURFACE ELEVATION: 7.60 feet msl INNER CASING ELEVATION(S): 7.17 ft msl
DRILLING CONTRACTOR: Unit-Tech FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
START: 11/27/2001 7:30:00 AM FINISH: 11/28/2001 4:00:00 PM NORTHING: 398827.203 feet EASTING: 318575.427 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302299

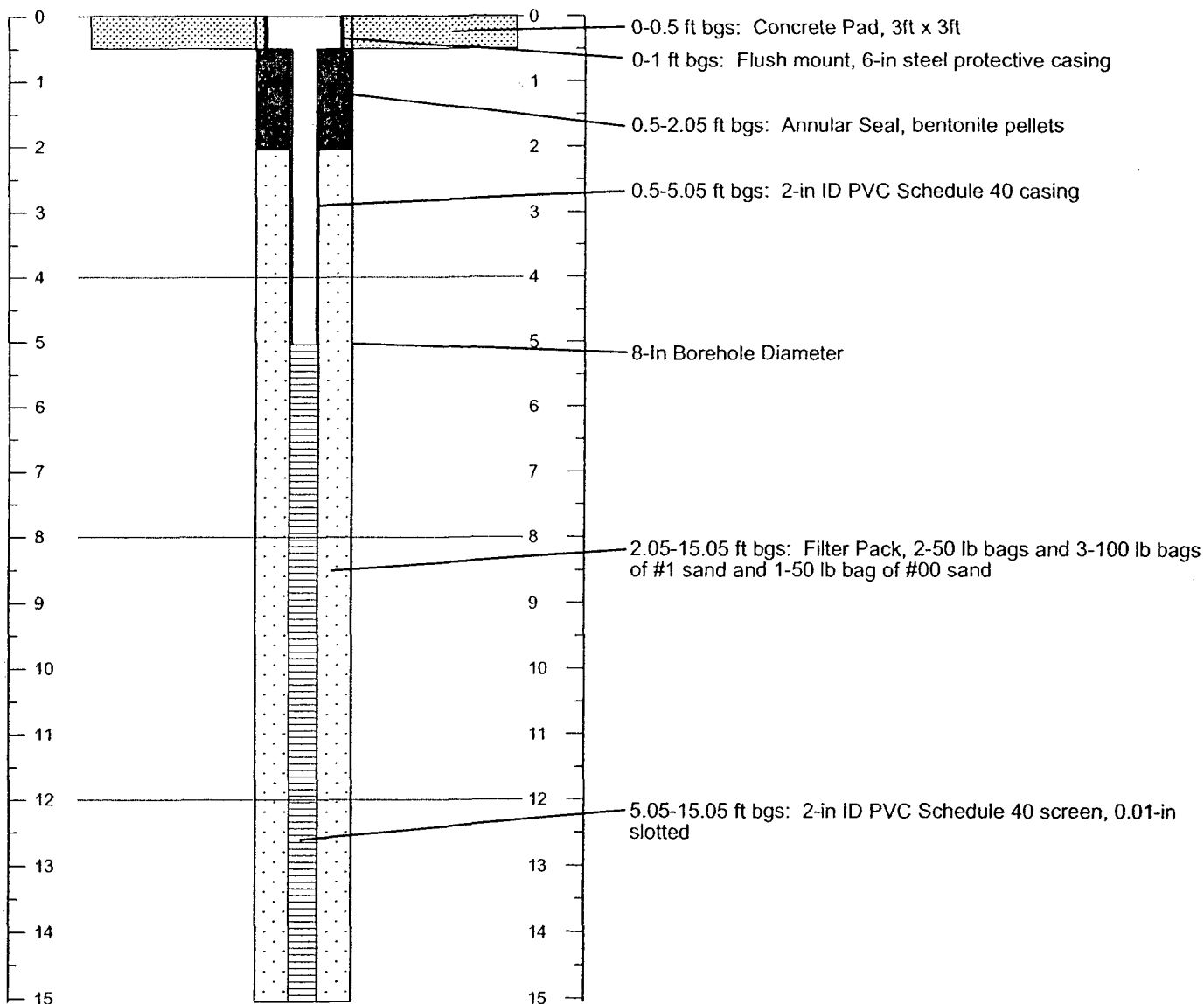
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2 WELL NUMBER / PERMIT: **MA-MW19S** / 31-62180
PROJECT NUMBER: 164453 LOCATION: Corner of Sixth and Everett Streets
PROJECT NAME: EPA-Martin Aaron FINISHED WELL DEPTH: 15.05 ft bgs
SURFACE ELEVATION: 6.64 feet msl INNER CASING ELEVATION(S): 6.37 ft msl
DRILLING CONTRACTOR: Unit-Tech FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
START: 11/06/2001 10:30:00 AM FINISH: 11/06/2001 12:30:00 PM NORTHING: 398868.698 feet EASTING: 318899.471 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302300

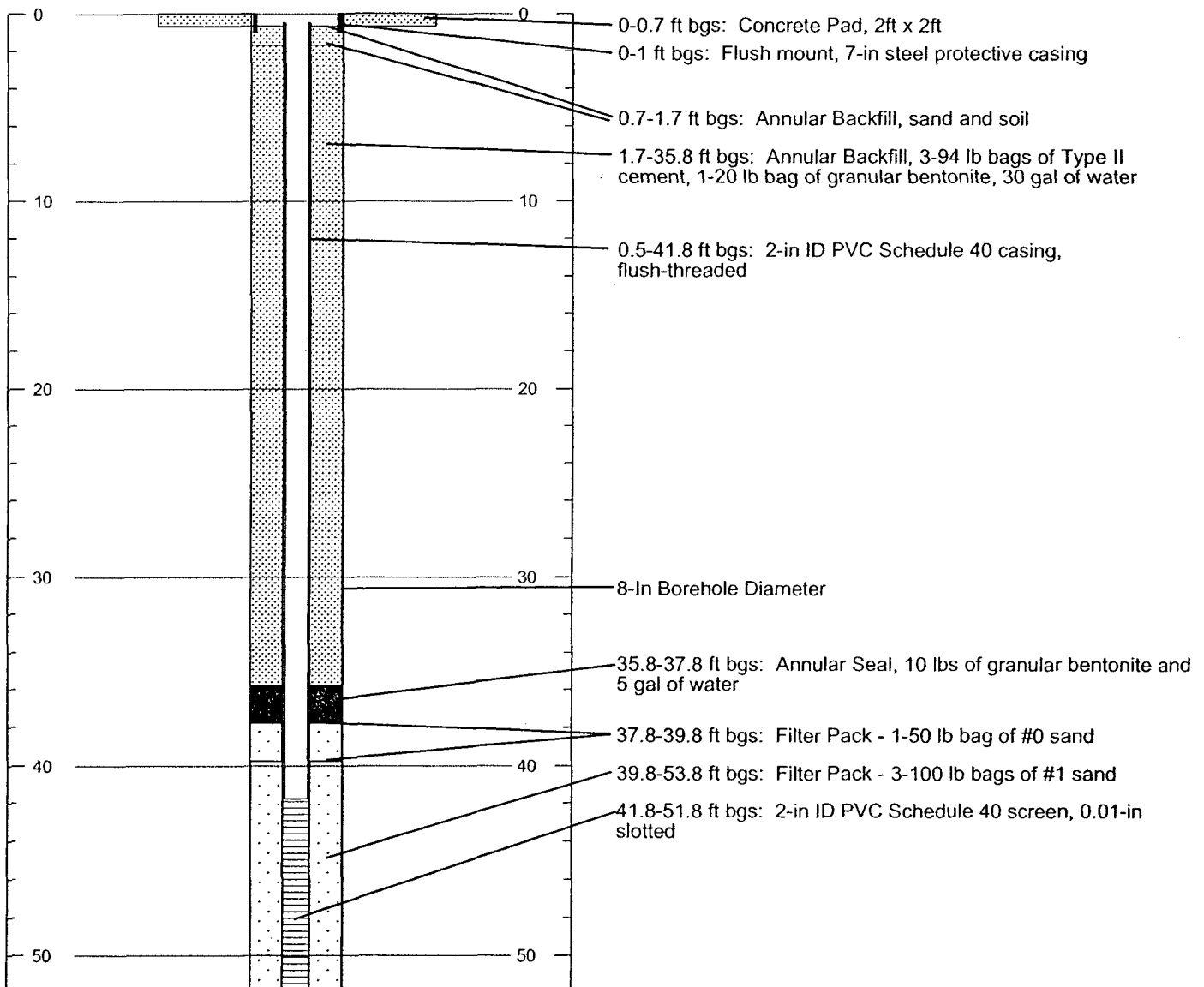
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 6.66 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 11/12/2001 7:00:00 AM FINISH: 11/12/2001 1:20:00 PM
WELL NUMBER / PERMIT: MA-MW19M / 31-62181
LOCATION: Intersection of Sixth and Everett Streets
FINISHED WELL DEPTH: 51.8 ft bgs
INNER CASING ELEVATION(S): 6.46 ft msl
FOREMAN: CH2M GEOLOGIST: Mark Eshbaugh
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398858.905 feet EASTING: 318899.027 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302301

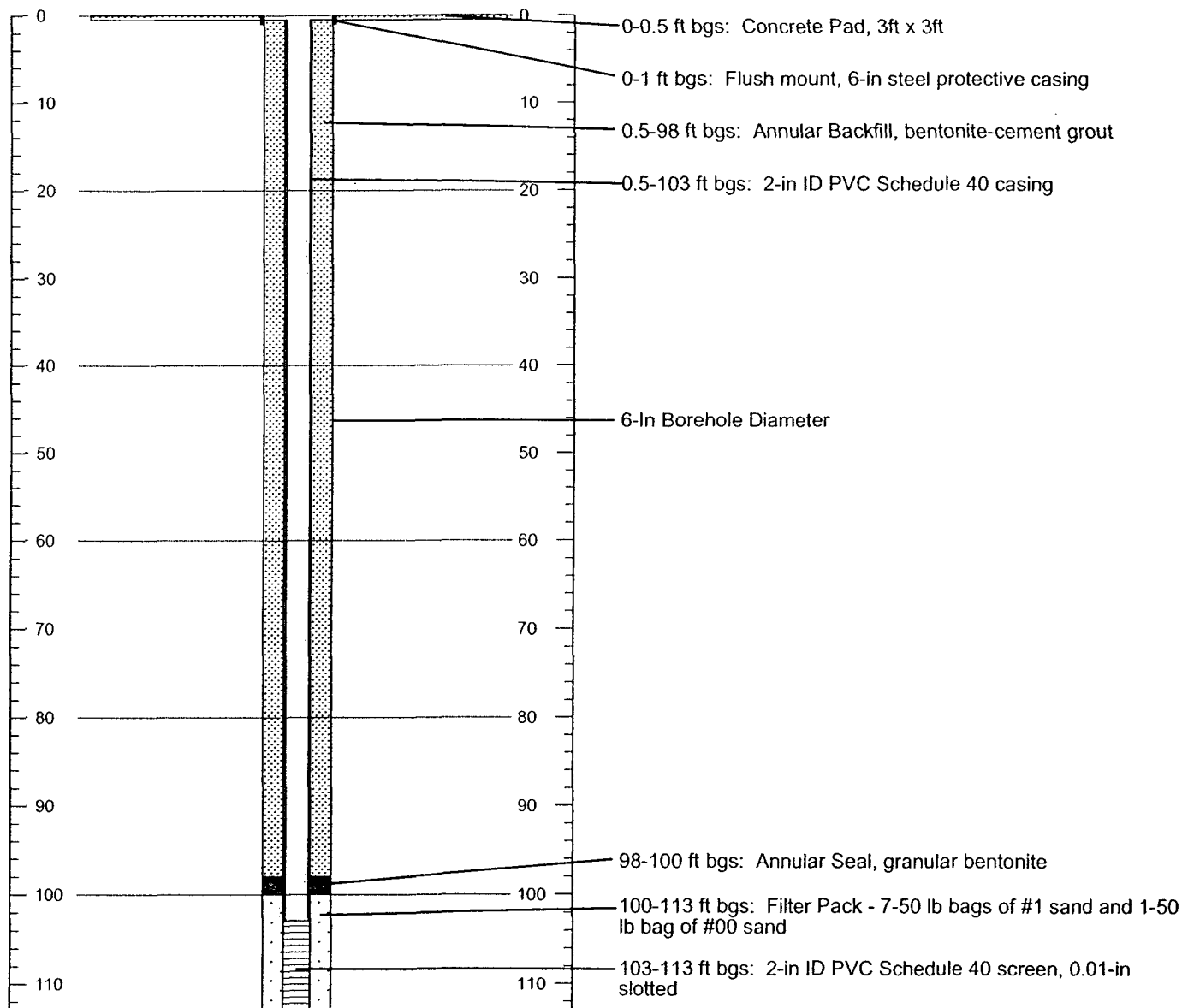
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 6.66 feet msl
DRILLING CONTRACTOR:
DRILLING METHOD:
START: FINISH:
WELL NUMBER / PERMIT: MA-MW19R / 31-63457
LOCATION: Intersection of Sixth and Everett Streets
FINISHED WELL DEPTH: 113 ft bgs
INNER CASING ELEVATION(S): 6.46 ft msl
FOREMAN: CH2M GEOLOGIST:
DRILLING EQUIPMENT:
NORTHING: 398847.102 feet EASTING: 318898.361 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302302



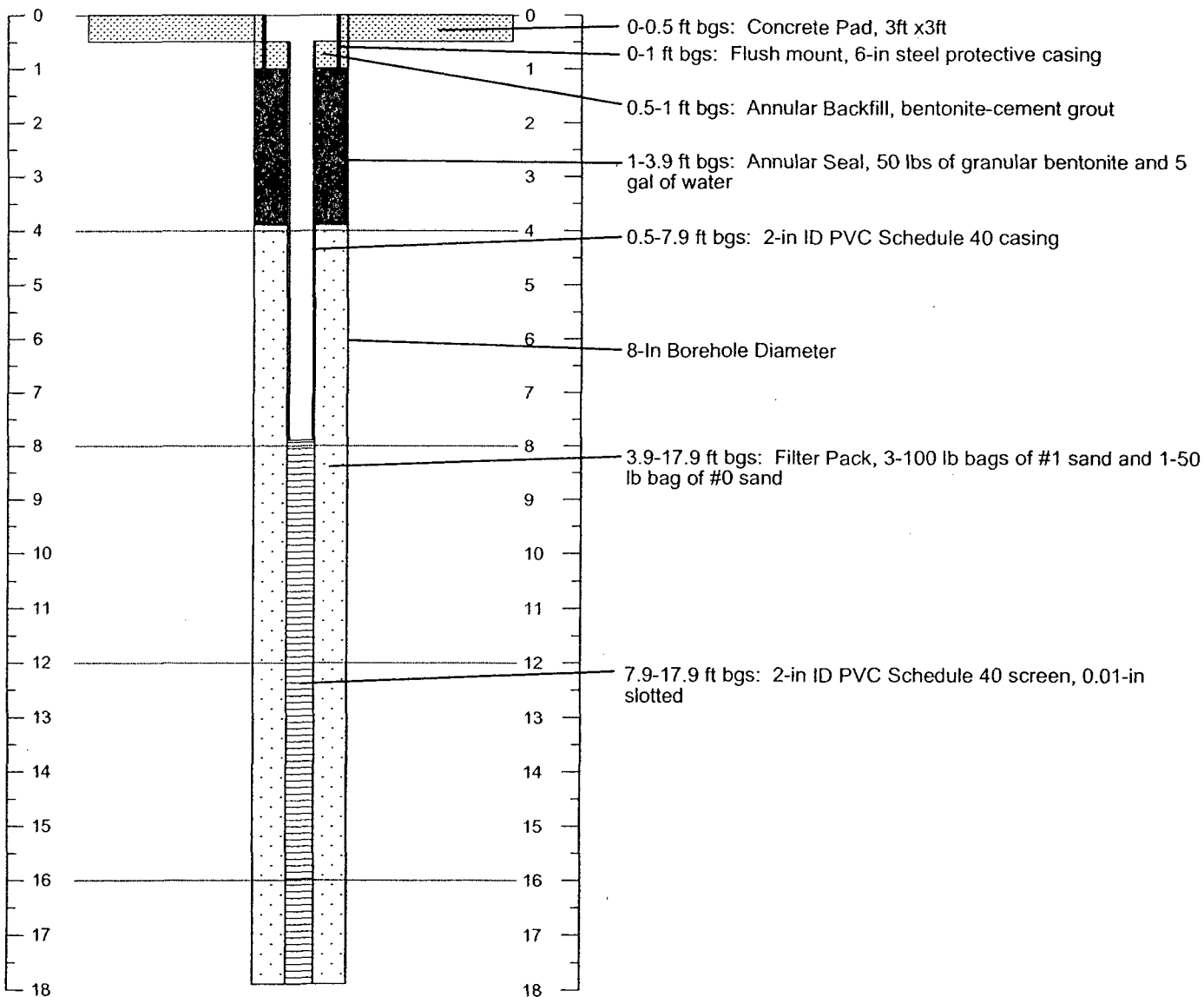
CH2MHILL

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2	WELL NUMBER / PERMIT: MA-MW20S / 31-62174
PROJECT NUMBER: 164453	LOCATION: Corner of Jackson and S. Sixth Street
PROJECT NAME: EPA-Martin Aaron	FINISHED WELL DEPTH: 17.9 ft bgs
SURFACE ELEVATION: 6.67 feet msl	INNER CASING ELEVATION(S): 6.28 ft msl
DRILLING CONTRACTOR: Unit-Tech	FOREMAN: CH2M GEOLOGIST: Mark Eshbaugh
DRILLING METHOD: Hollow Stem Auger	DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
START: 11/07/2001 10:30:00 AM	FINISH: 11/07/2001 11:45:00 AM
NORTHING: 398149.781 feet	EASTING: 318872.603 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302303

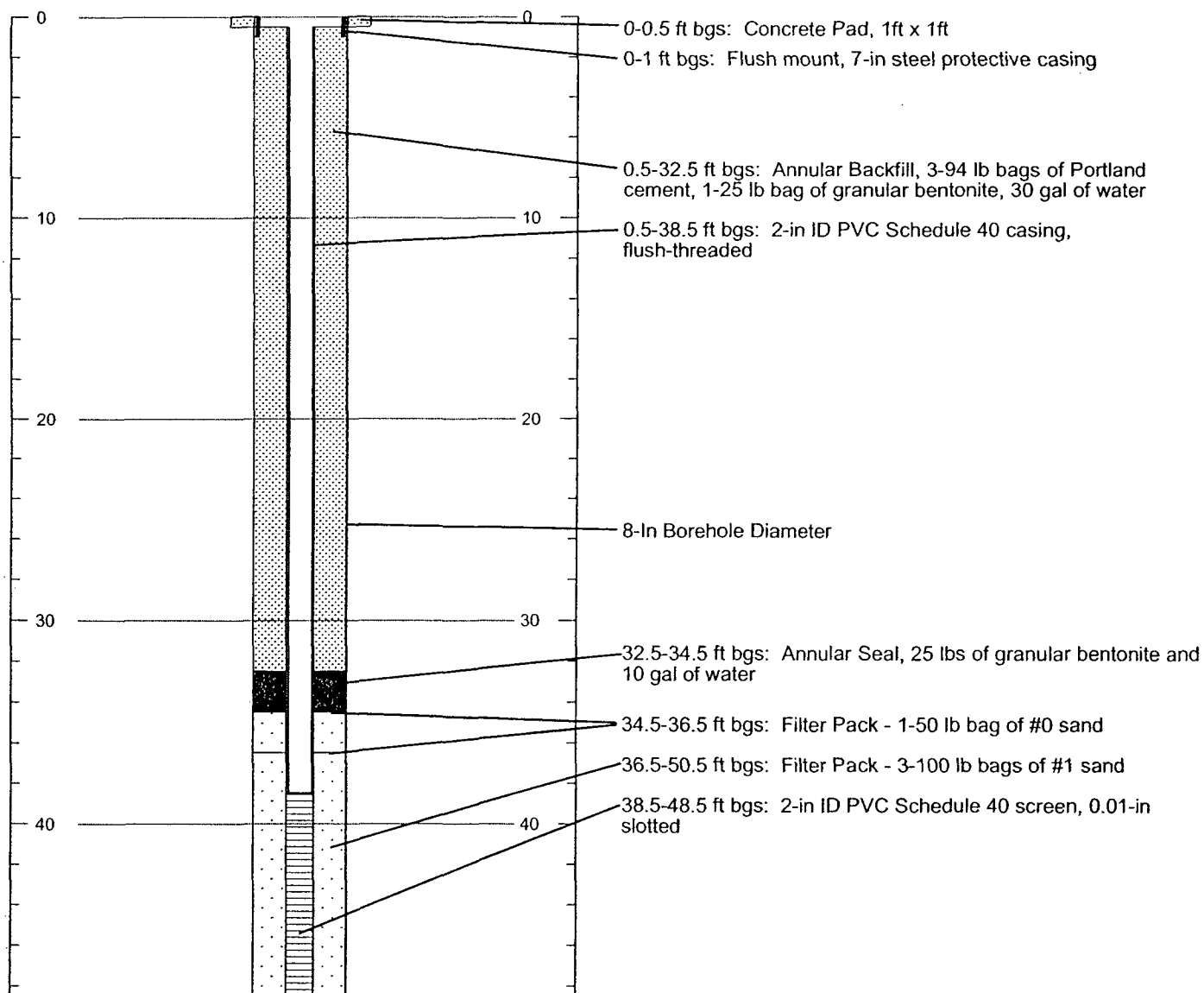
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 6.93 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 11/13/2001 7:00:00 AM
FINISH: 11/13/2001 12:00:00 PM
WELL NUMBER / PERMIT: MA-MW20M / 31-62175
LOCATION: Sixth Street and Jackson
FINISHED WELL DEPTH: 48.5 ft bgs
INNER CASING ELEVATION(S): 6.67 ft msl
FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398174.443 feet EASTING: 318875.777 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302304

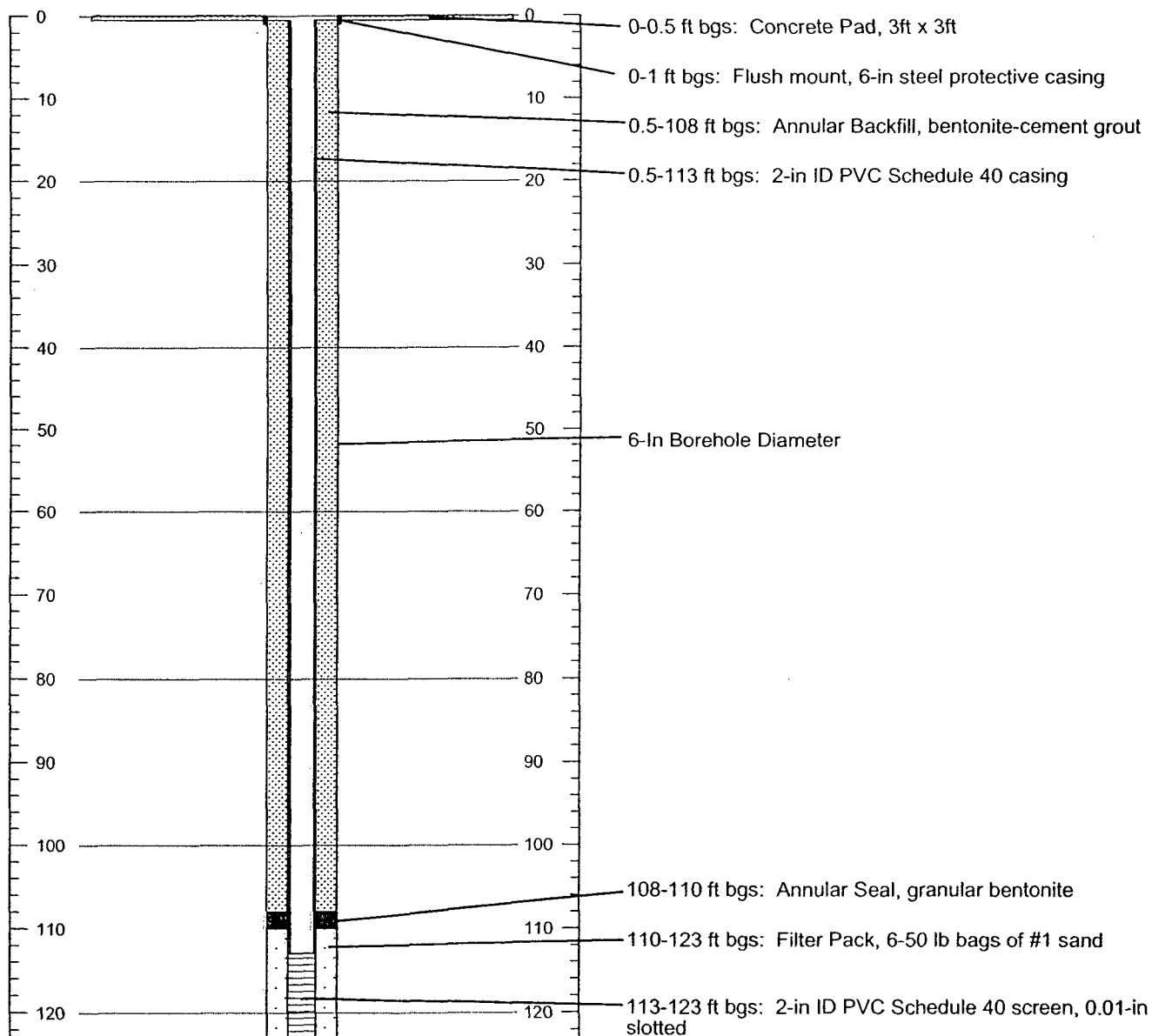
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 6.98 feet msl
DRILLING CONTRACTOR:
DRILLING METHOD:
START: FINISH:
WELL NUMBER / PERMIT: MA-MW20R / 31-63458
LOCATION: Sixth and Jackson Streets
FINISHED WELL DEPTH: 123 ft bgs
INNER CASING ELEVATION(S): 6.47 ft msl
FOREMAN: CH2M GEOLOGIST:
DRILLING EQUIPMENT:
NORTHING: 398181.143 feet EASTING: 318876.27 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302305

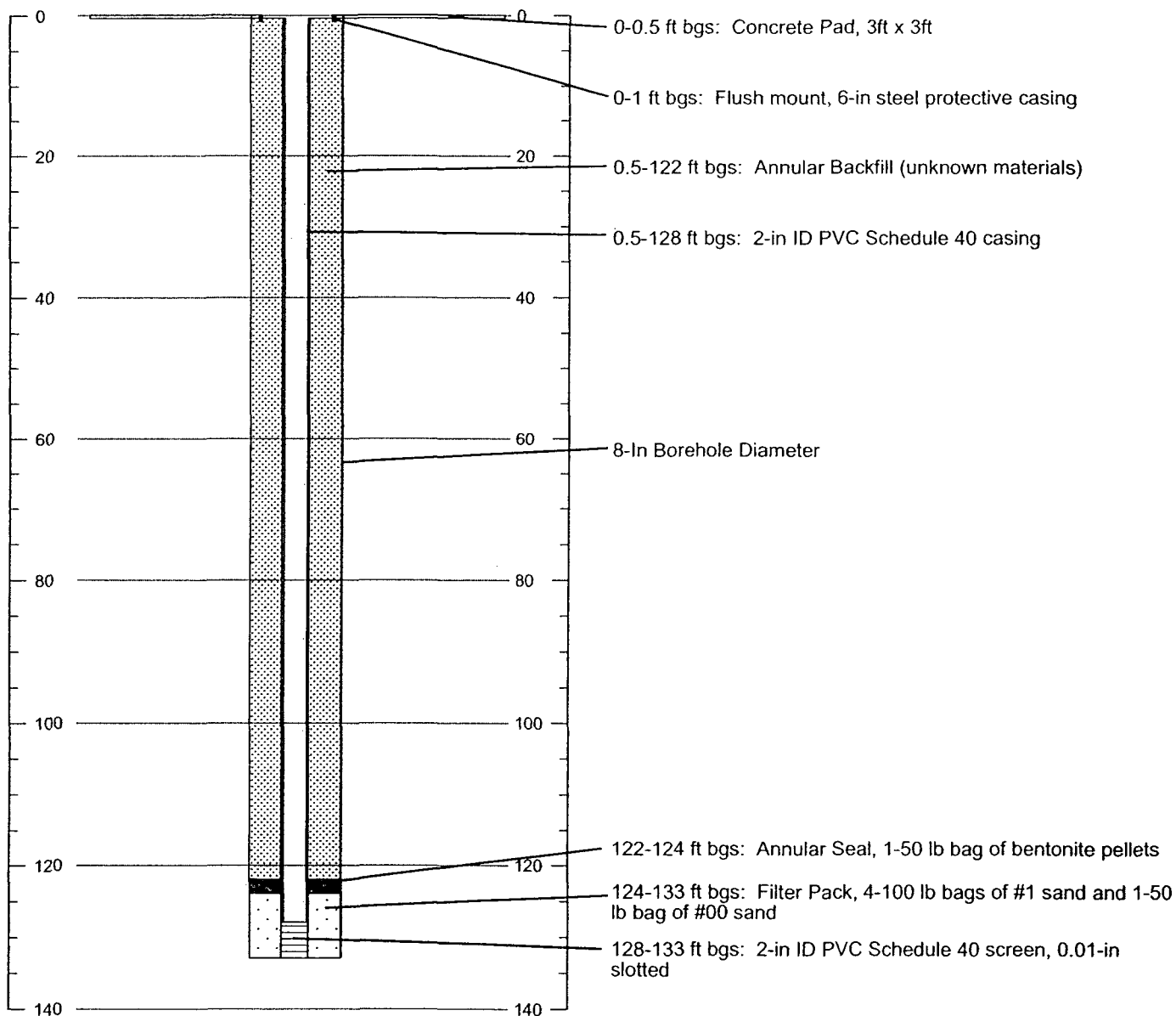
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 6.97 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit
START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM
WELL NUMBER / PERMIT: MA-MW20D / 31-62176
LOCATION: Sixth and Jackson Streets
FINISHED WELL DEPTH: 133 ft bgs
INNER CASING ELEVATION(S): 6.61 ft msl
FOREMAN: CH2M GEOLOGIST: Wojciech Winkler
DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302306

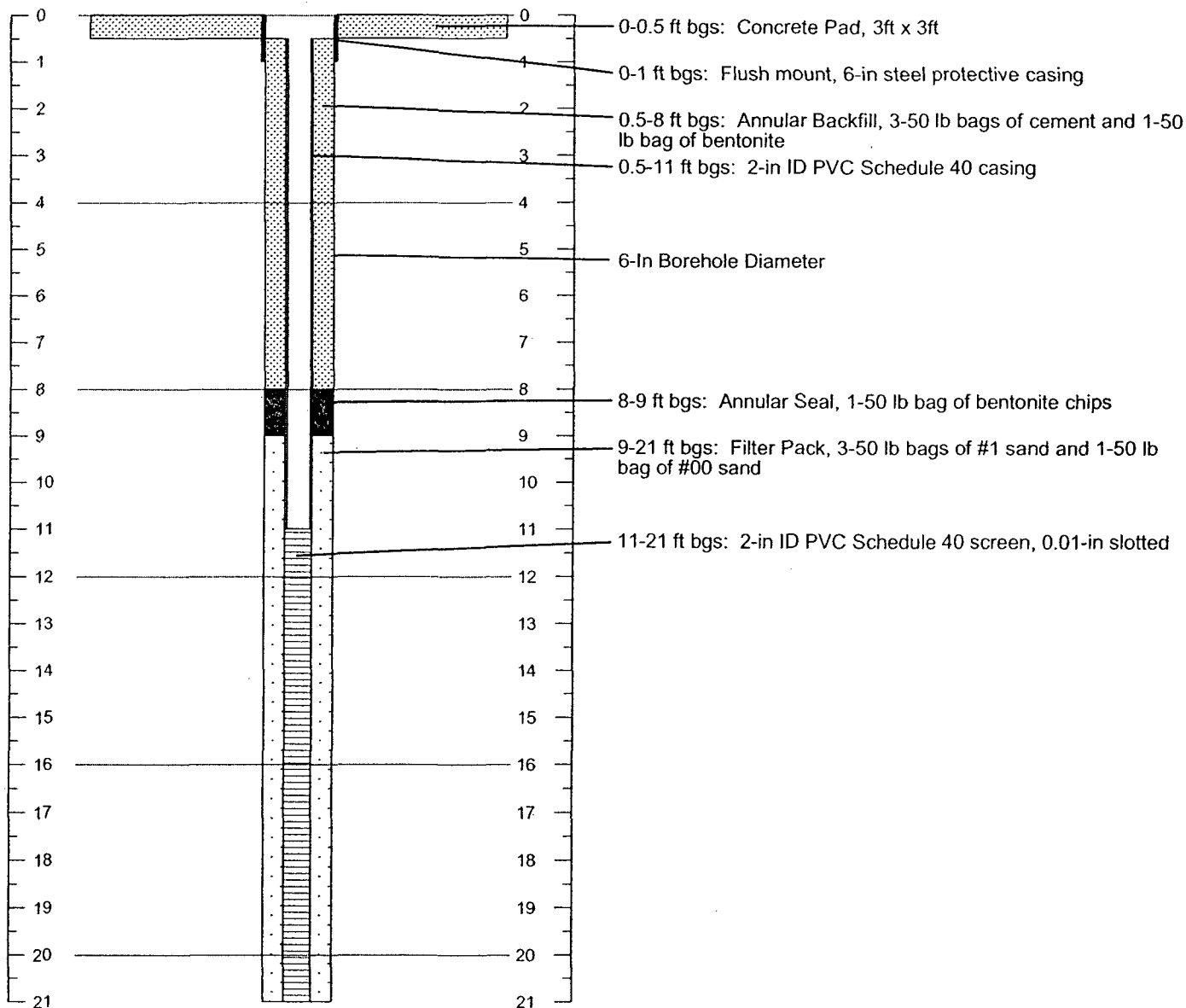
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453
PROJECT NAME: EPA-Martin Aaron
SURFACE ELEVATION: 6.47 feet msl
DRILLING CONTRACTOR: Unit-Tech
DRILLING METHOD: Hollow Stem Auger
START: 01/02/2002 12:45:00 PM FINISH:
WELL NUMBER / PERMIT: MA-MW21S / 31-62522
LOCATION: South Jersey Port
FINISHED WELL DEPTH: 21 ft bgs
INNER CASING ELEVATION(S): 5.97 ft msl
FOREMAN: CH2M GEOLOGIST: Winkler/Rech
DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
NORTHING: 398392.191 feet EASTING: 317912.704 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
Elevation datum is NAVD88.

msl = mean sea level
bgs = below ground surface
ags = above ground surface

302307

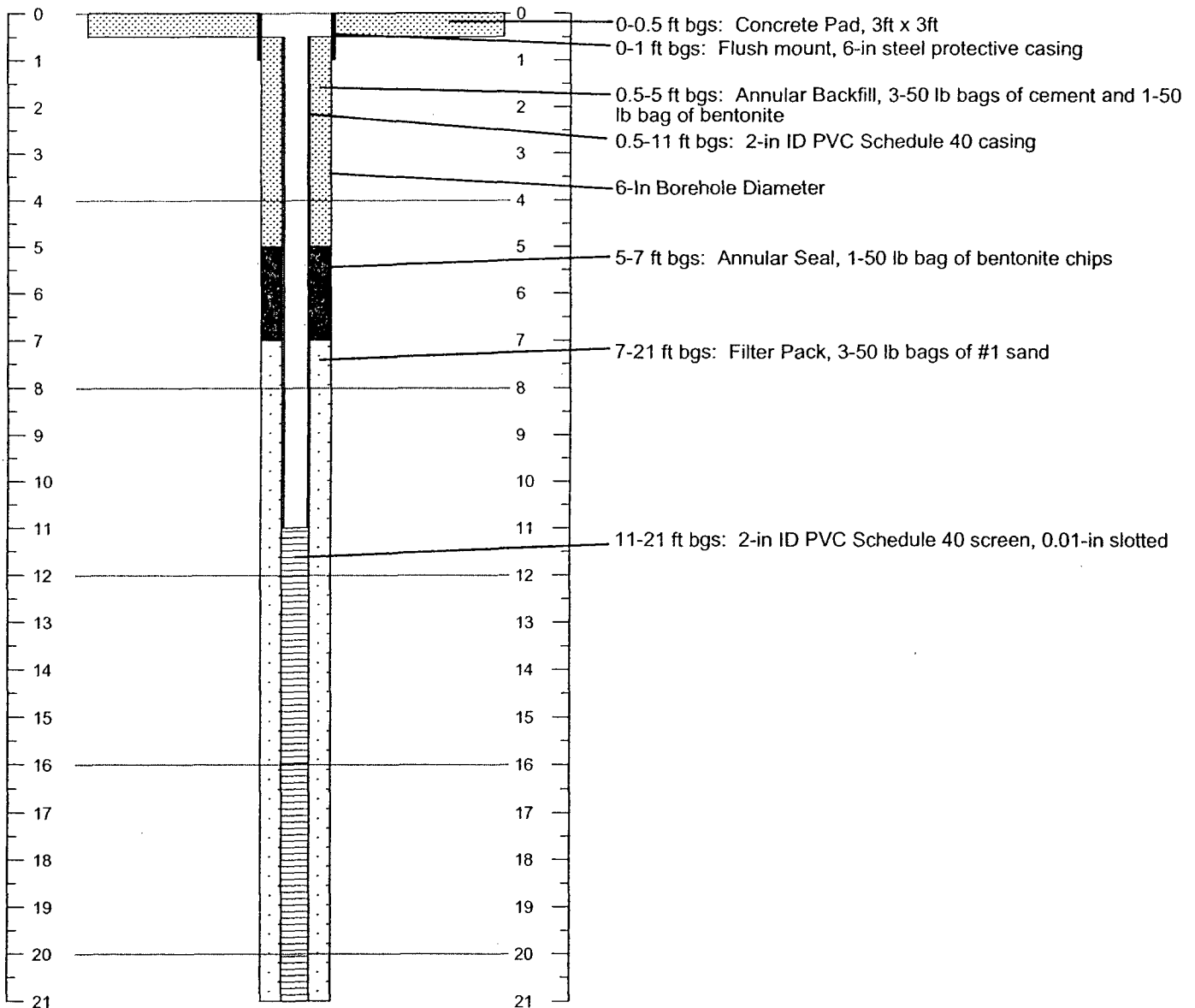
**CH2MHILL**

WELL CONSTRUCTION LOG

SHEET 1 OF 1

CLIENT: EPA Region 2 WELL NUMBER / PERMIT: **MA-MW22S** / 31-62523
 PROJECT NUMBER: 164453 LOCATION: South Jersey Port
 PROJECT NAME: EPA-Martin Aaron FINISHED WELL DEPTH: 21 ft bgs
 SURFACE ELEVATION: 7.29 feet msl INNER CASING ELEVATION(S): 6.89 ft msl
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: CH2M GEOLOGIST: Winkler/Rech
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 START: _____ FINISH: _____ NORTHING: 398276.023 feet EASTING: 318308.884 feet

DEPTH BELOW GRADE (FT)	WELL CONSTRUCTION DIAGRAM	DESCRIPTION
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NOTES: Coordinates are New Jersey State Plane-NAD83.
 Elevation datum is NAVD88.

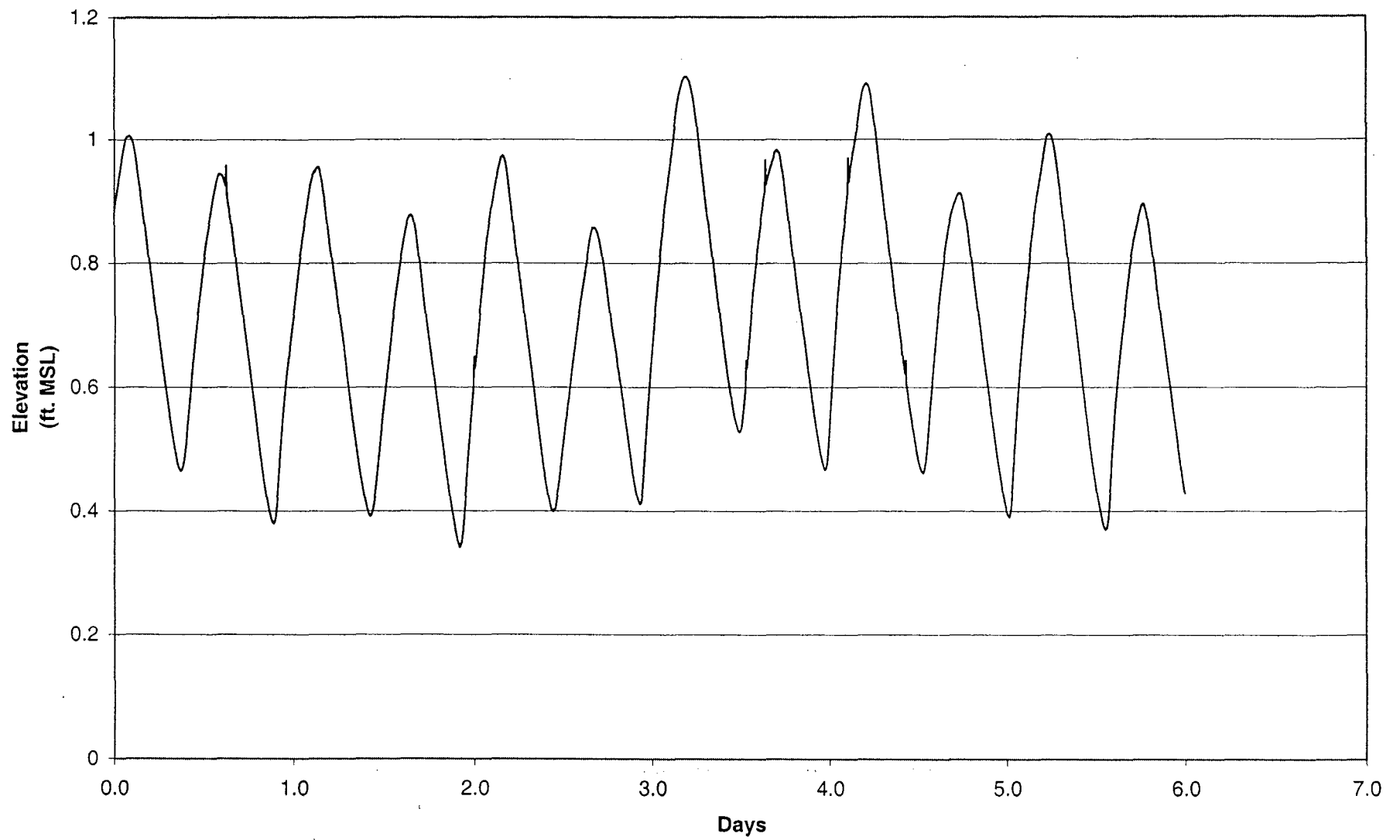
msl = mean sea level
 bgs = below ground surface
 ags = above ground surface

302308

Appendix D

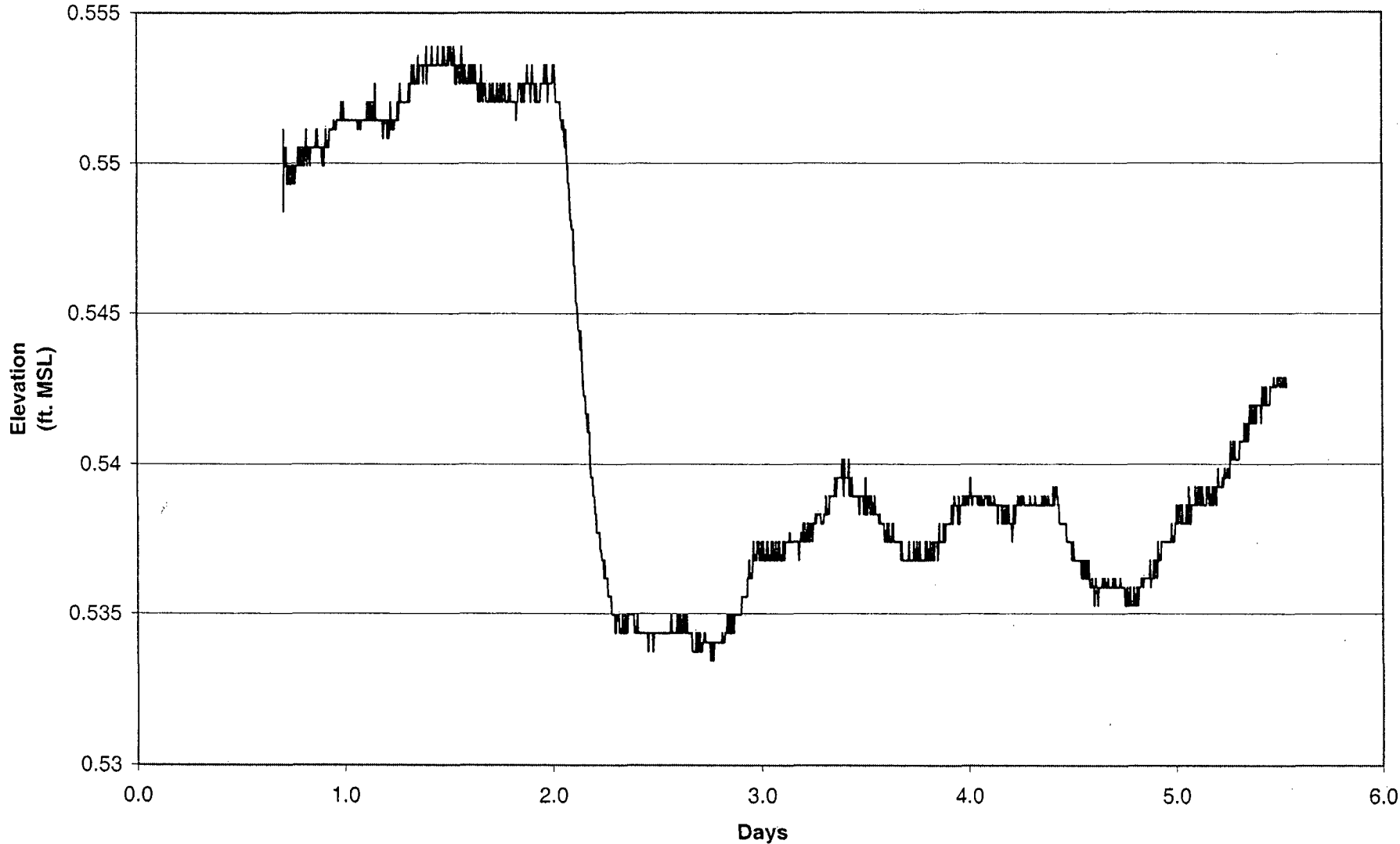
Tidal Survey Graphs/Slug Test Graphs

Martin Aaron: Tidal Survey Baseline In Delaware River

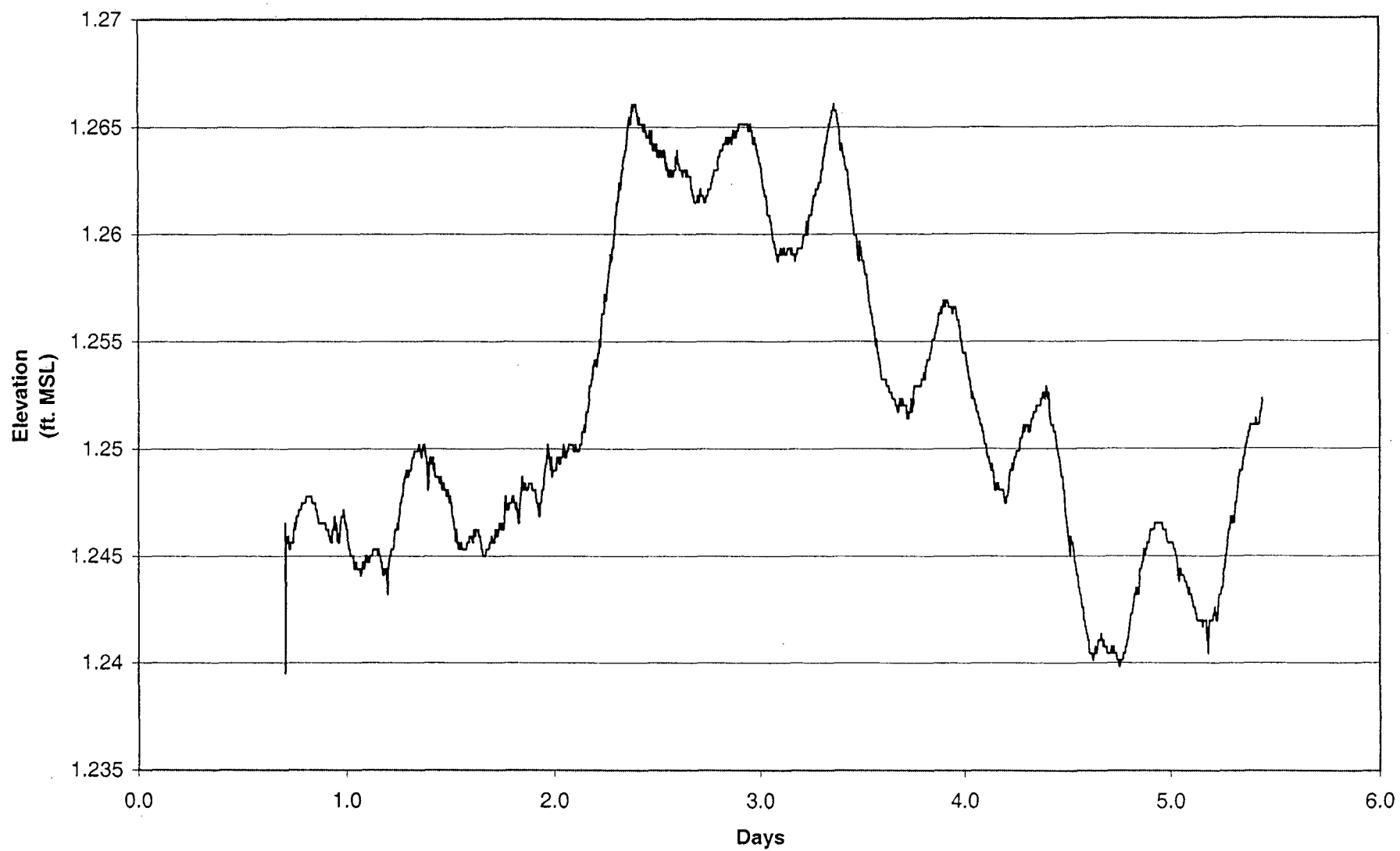


302311

Martin Aaron: MW-8S Tidal Survey

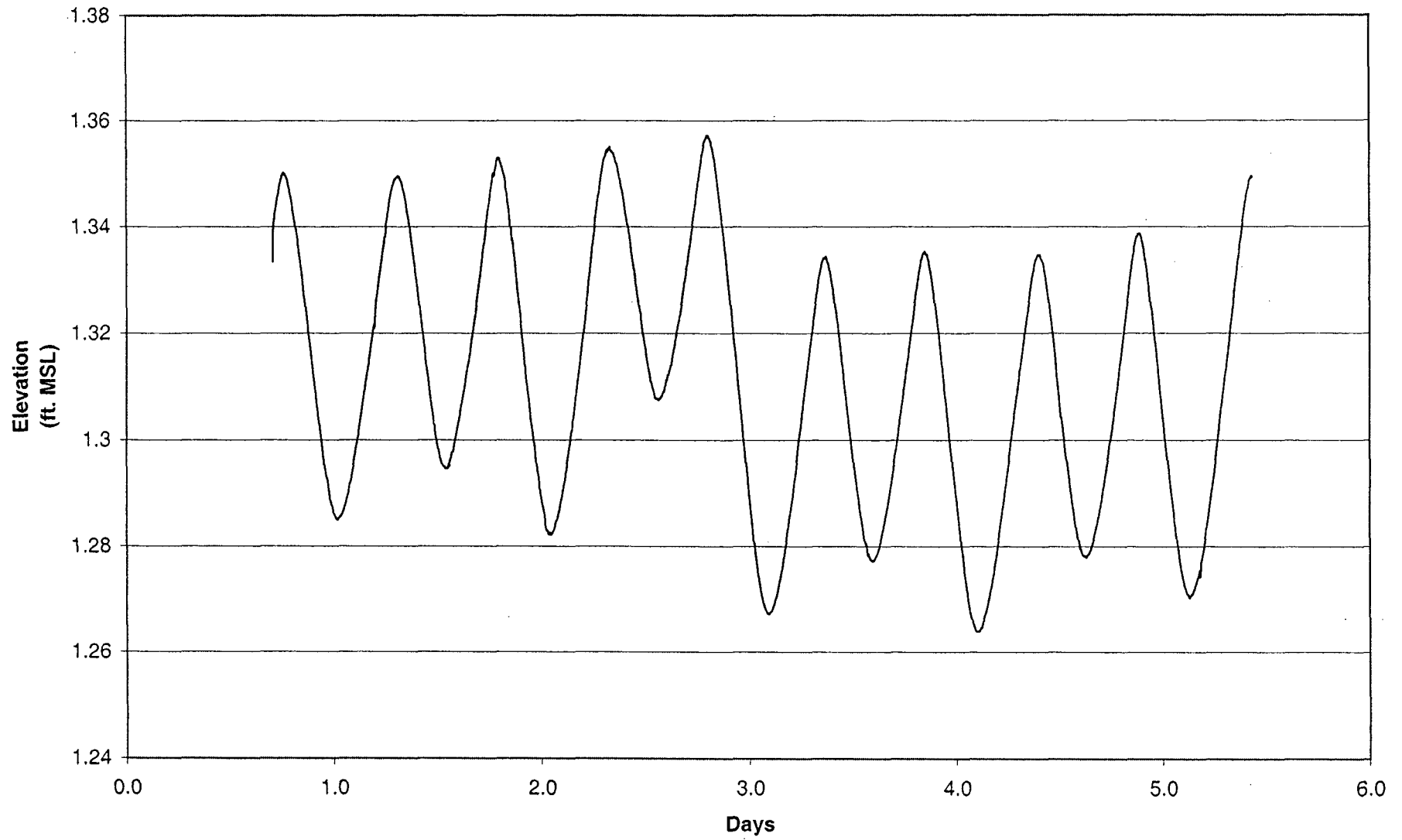


Martin Aaron: MW-14R Tidal Survey



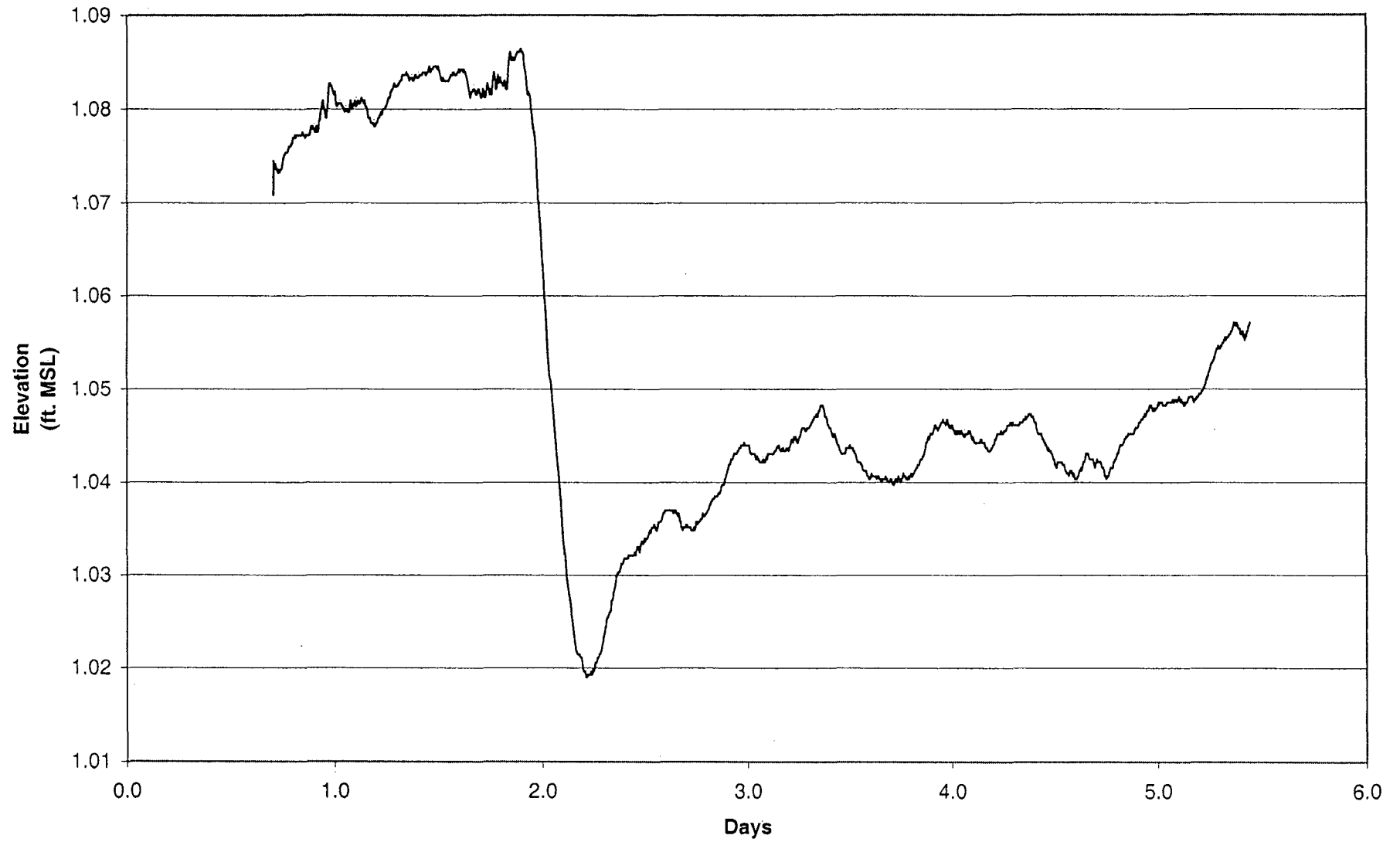
302313

Martin Aaron: MW-14D Tidal Survey



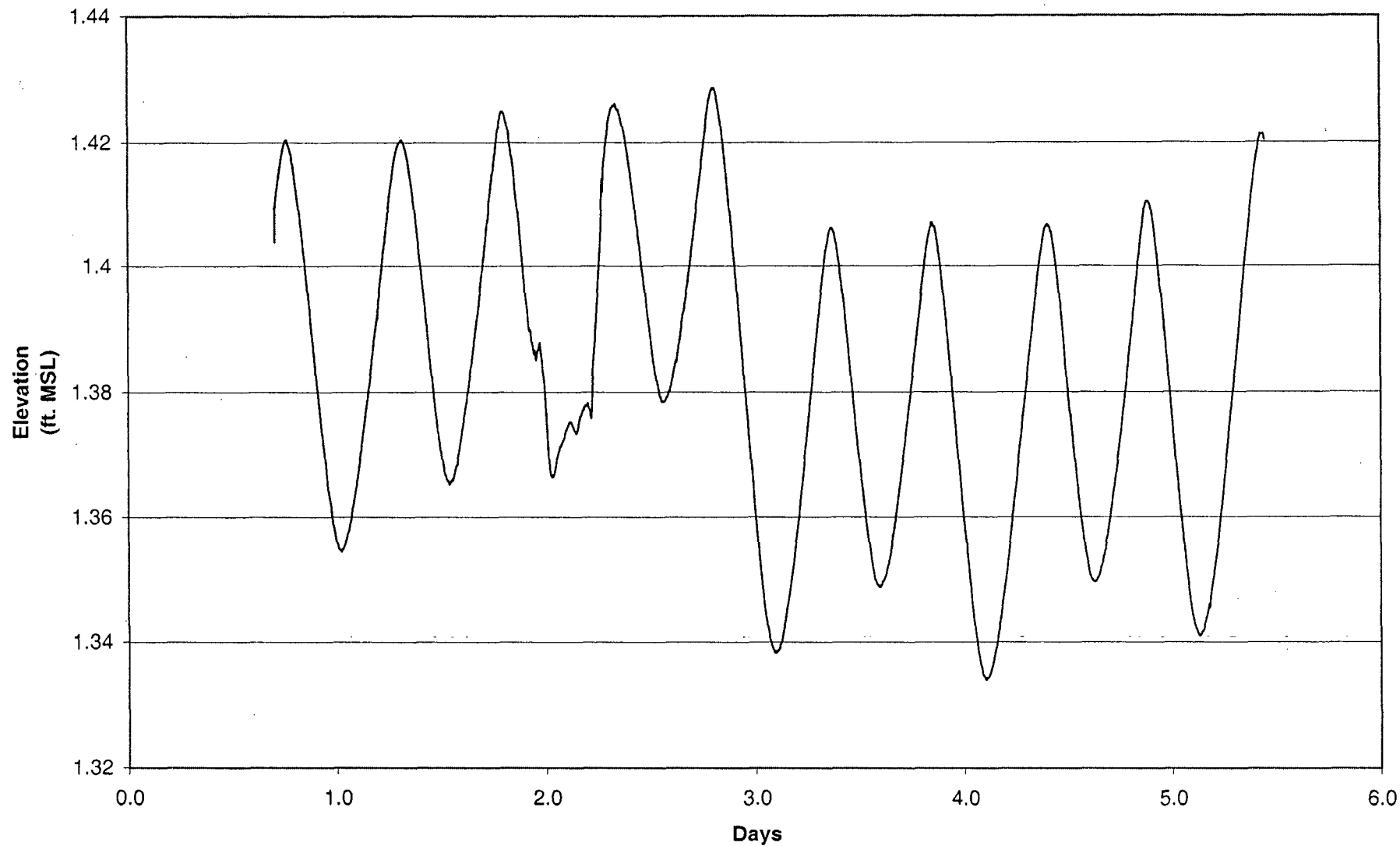
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Martin Aaron: MW-15S Tidal Survey



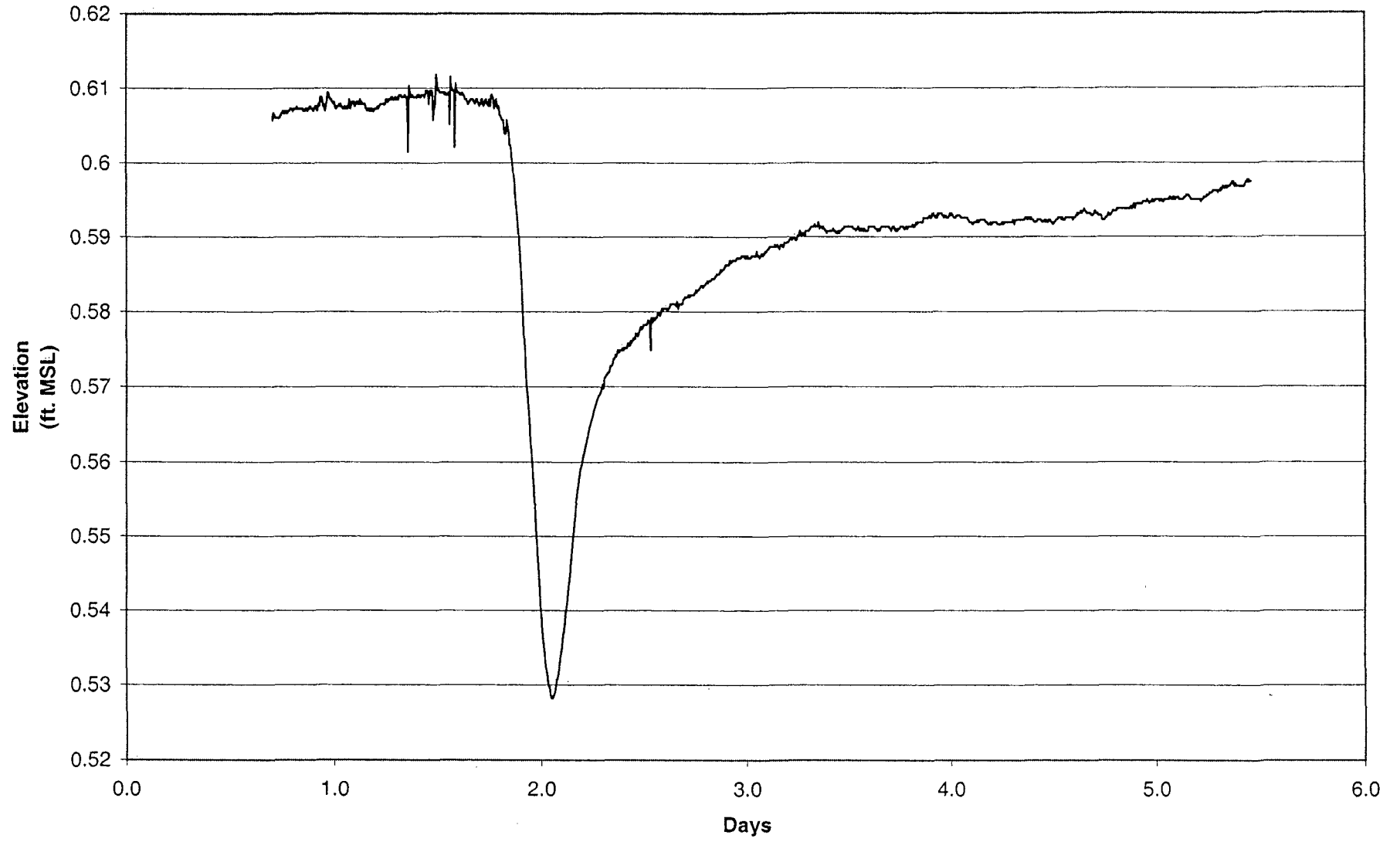
302315

Martin Aaron: MW18D Tidal Survey



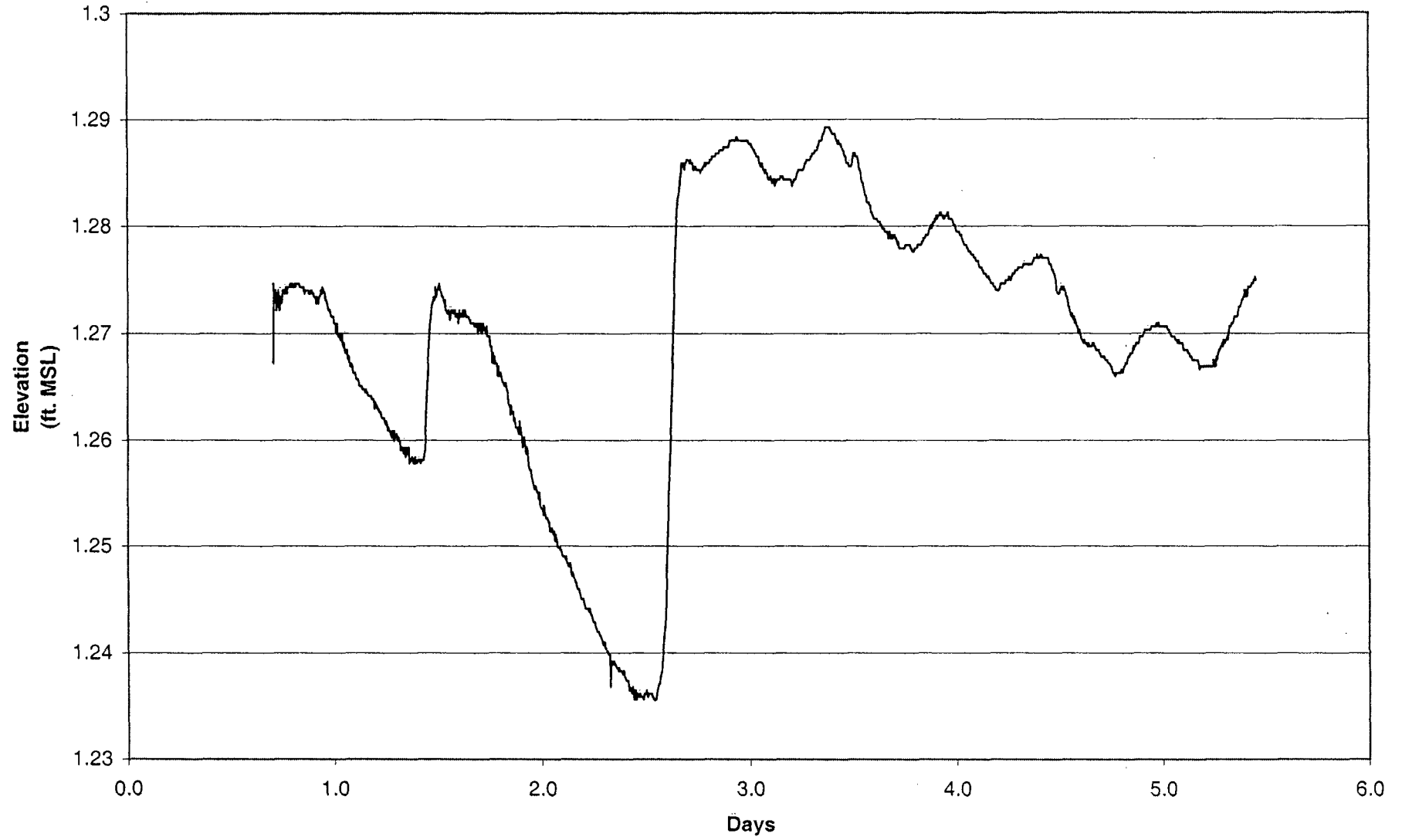
302316

Martin Aaron: MW-19S Tidal Survey



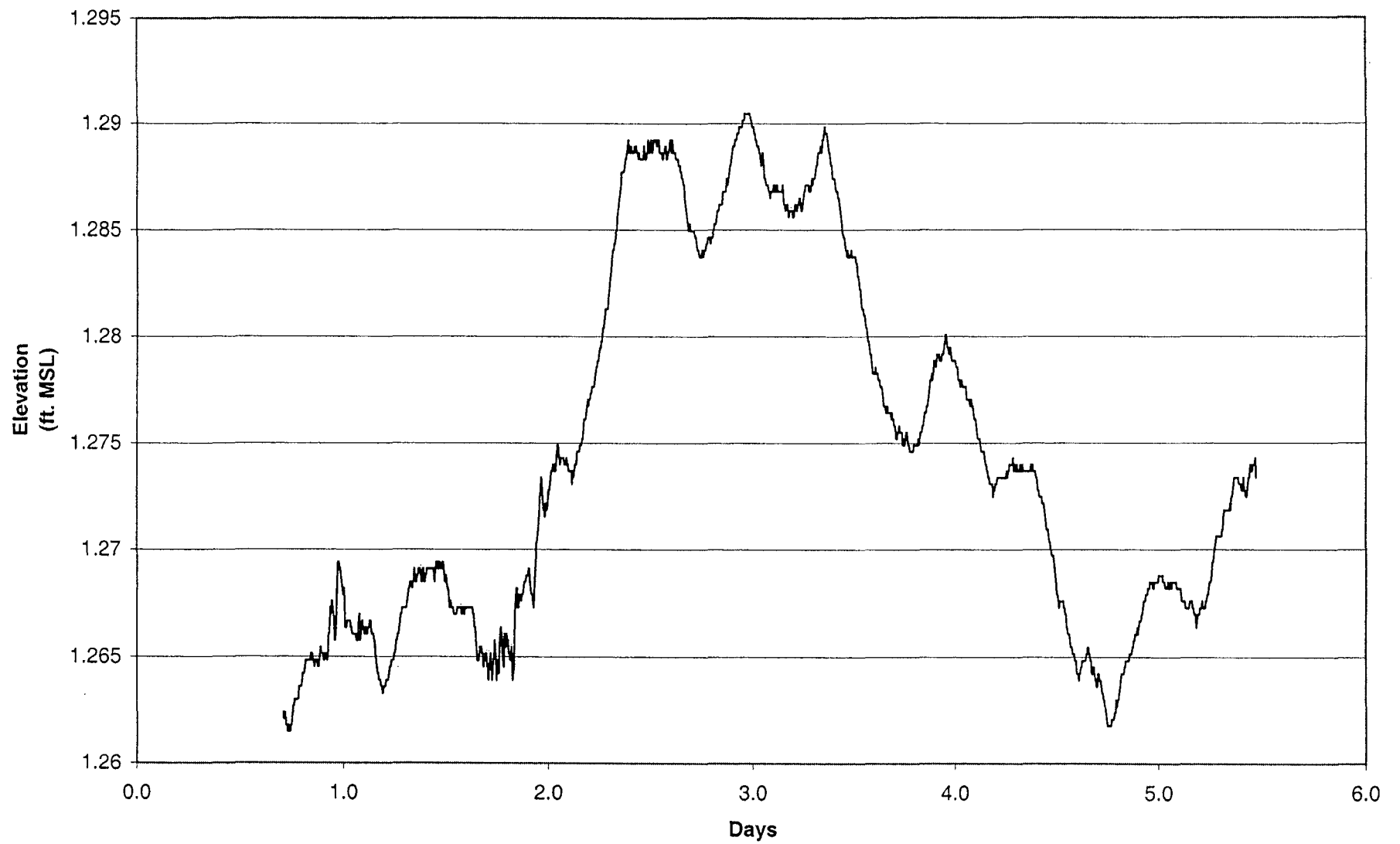
302317

Martin Aaron: MW-19R Tidal Survey



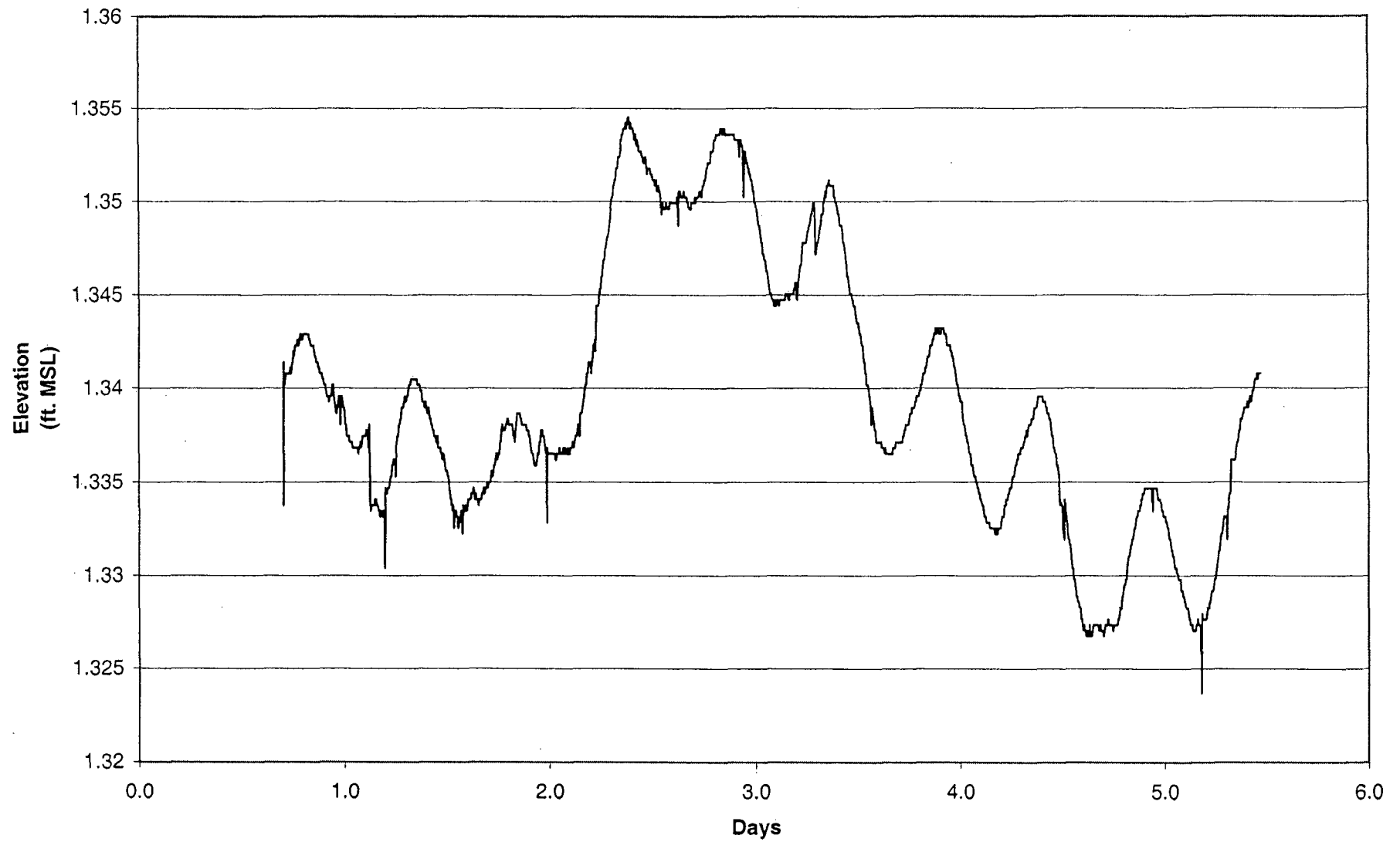
302318

Martin Aaron: MW-20S Tidal Survey



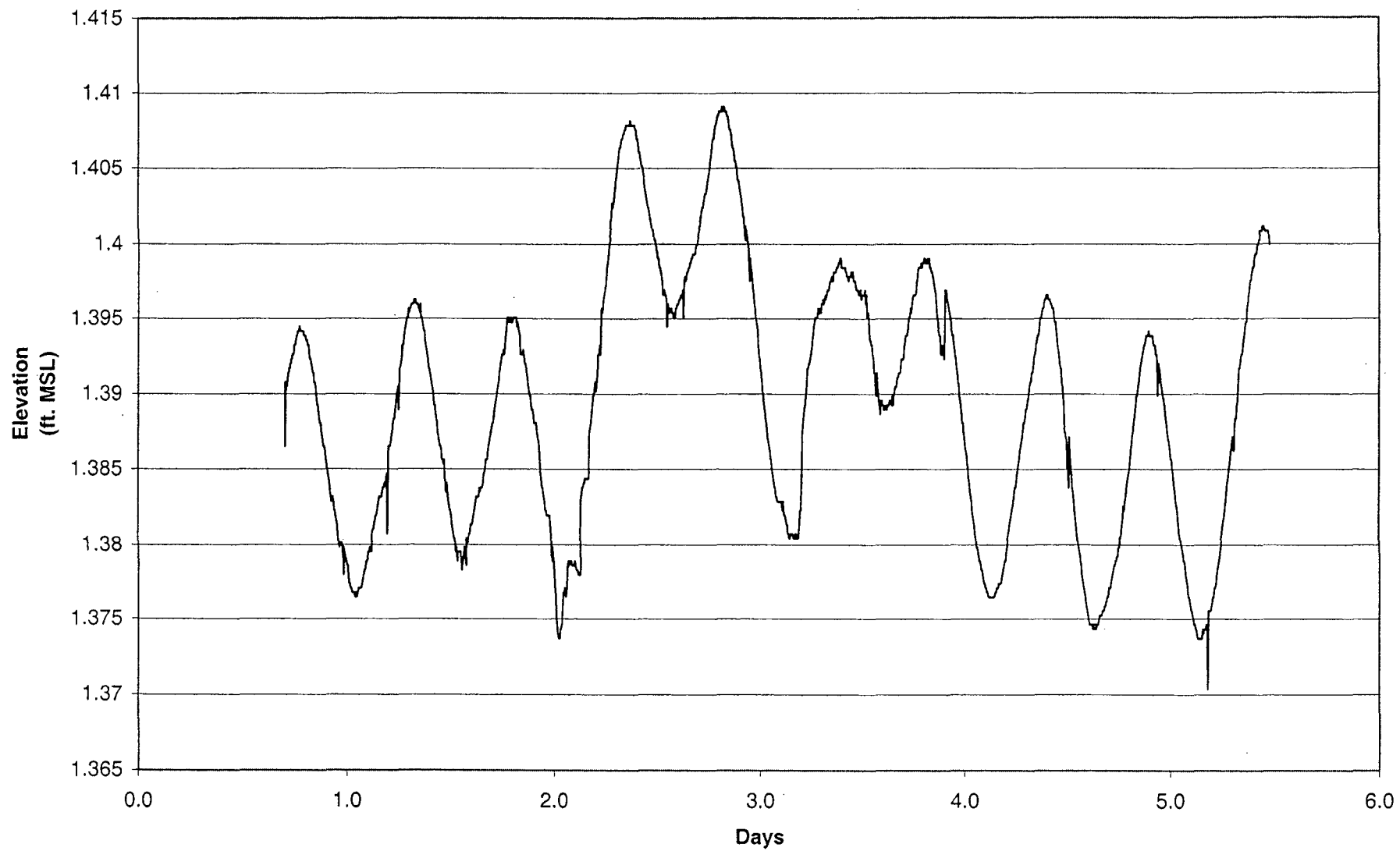
302319

Martin Aaron: MW-20R Tidal Survey



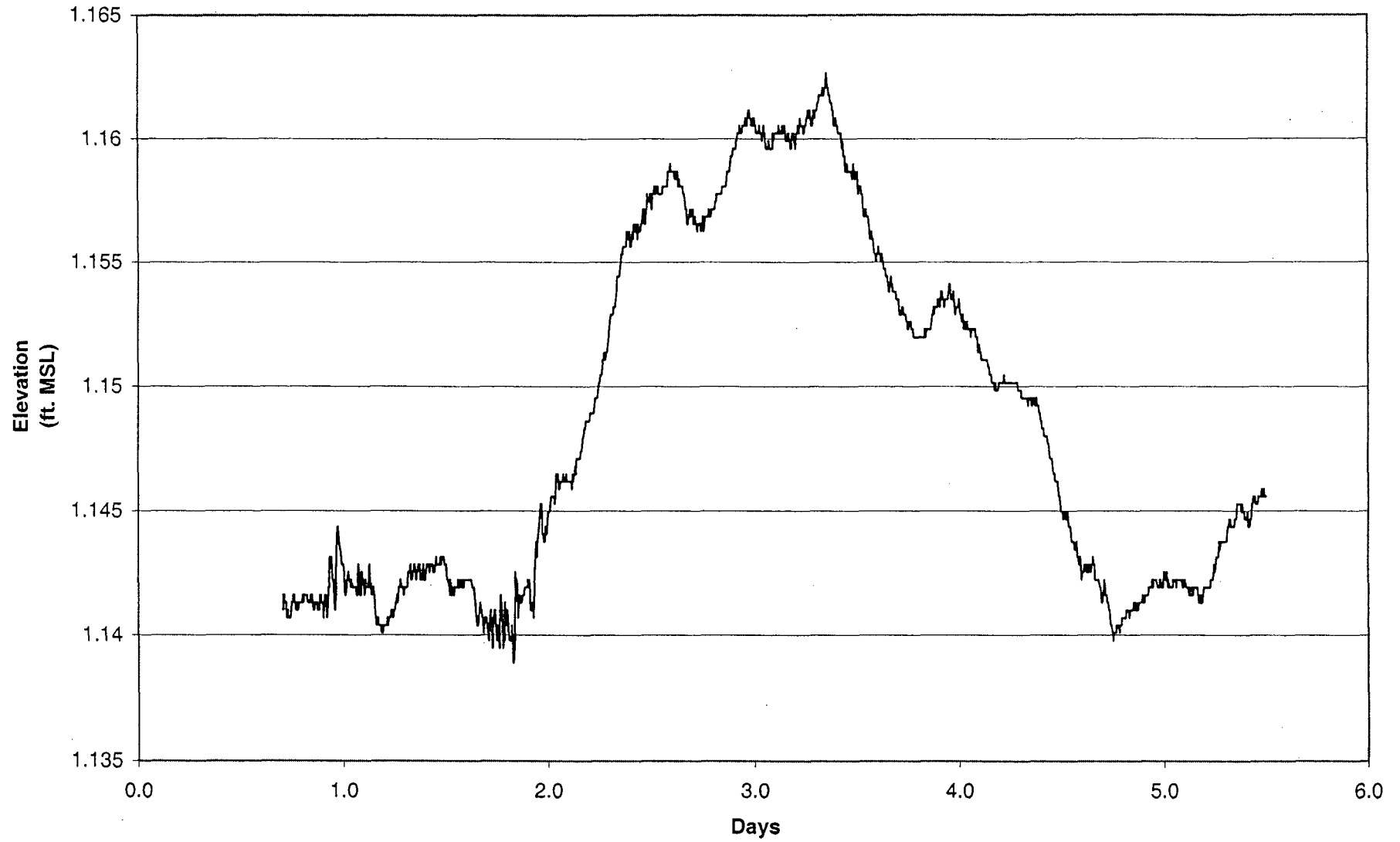
302320

Martin Aaron: MW-20D Tidal Survey



302321

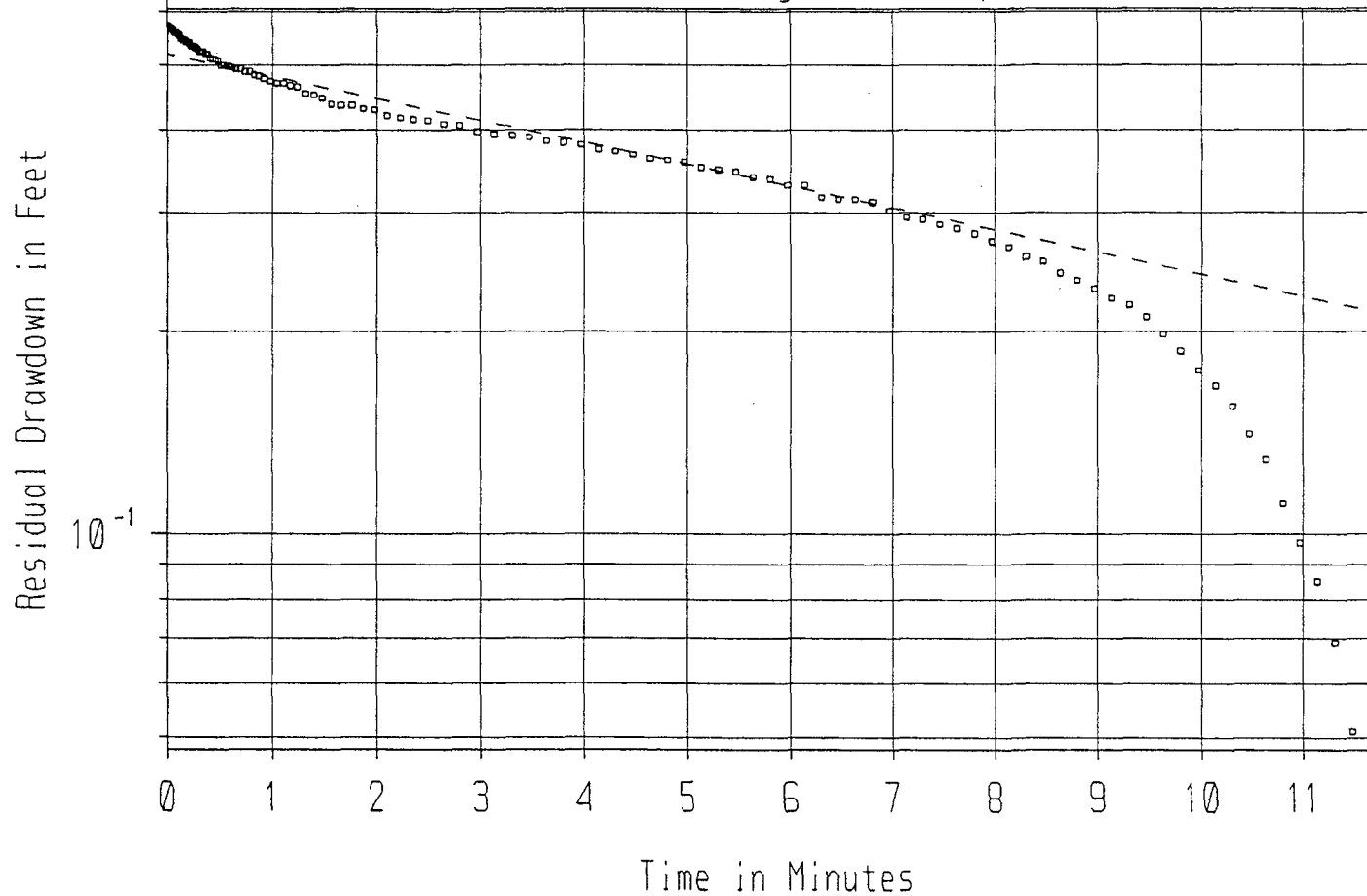
Martin Aaron: MW-21S Tidal Survey



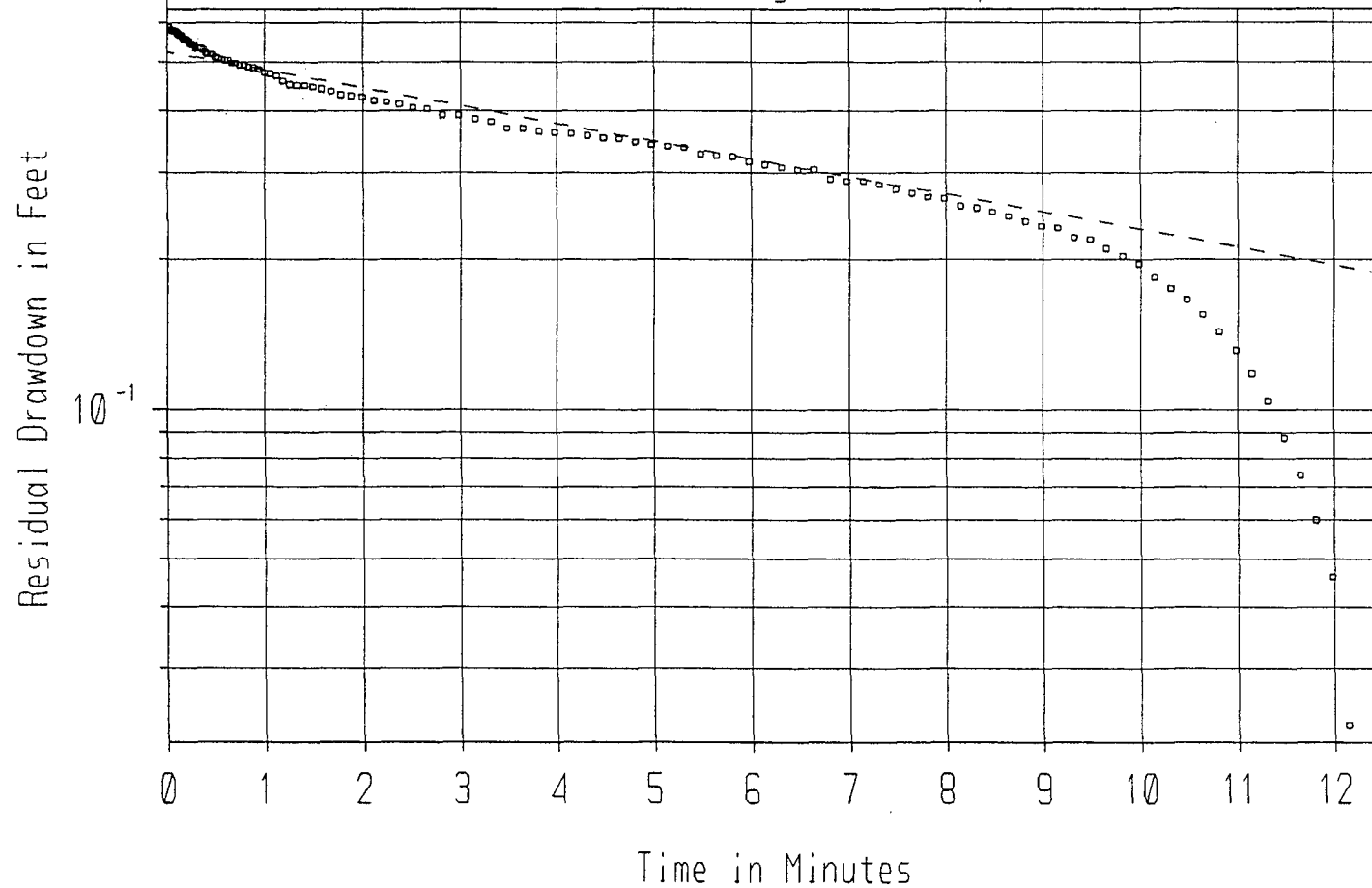
302322

Slug
Test

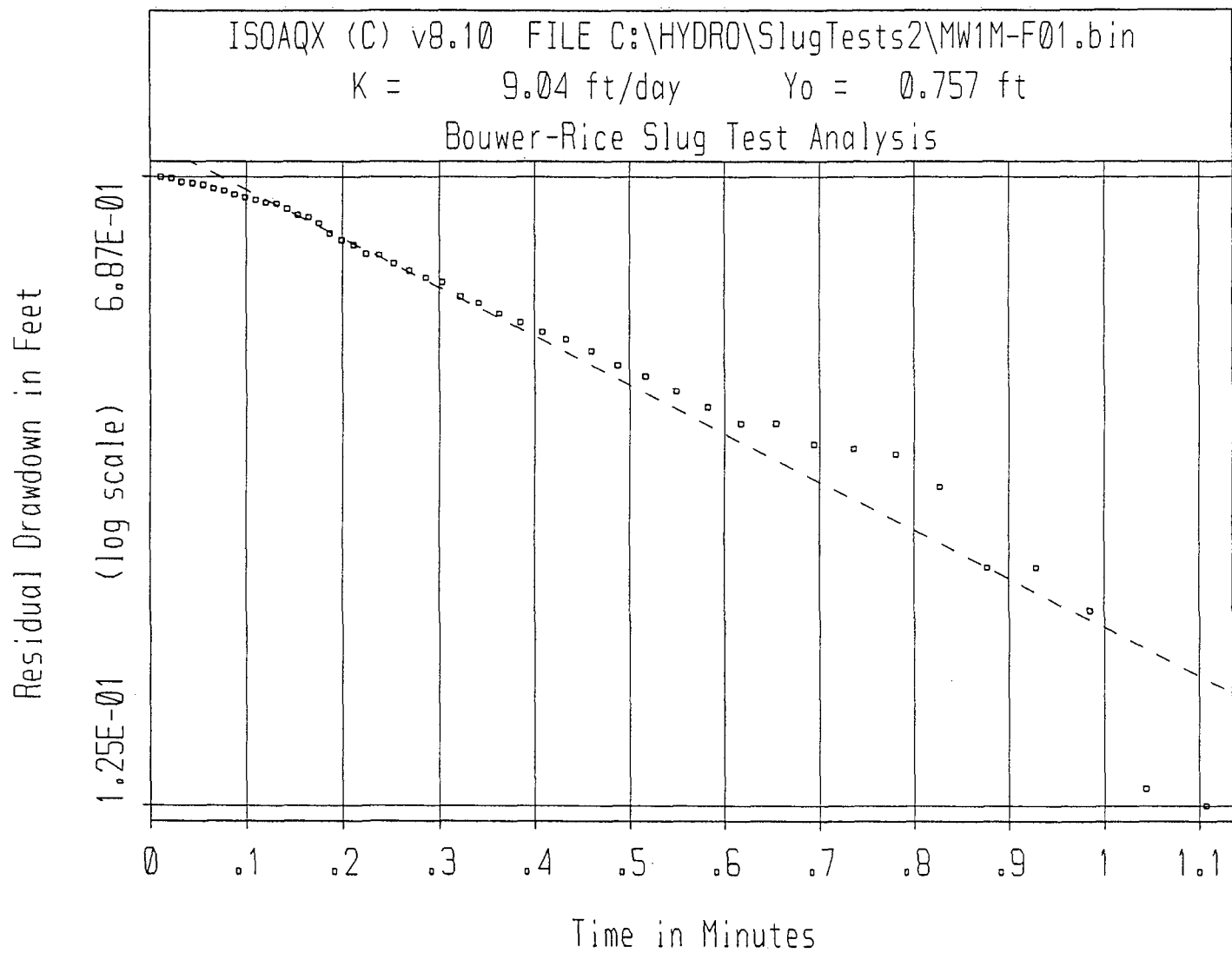
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Bouwer-Rice Slug Test Analysis



ISOAQX (C) v8.10 FILE C:\HYDRO\Slug Tests\MW15_R02.bin
K = 4.61E-01 ft/day Yo = 0.524 ft
Bouwer-Rice Slug Test Analysis



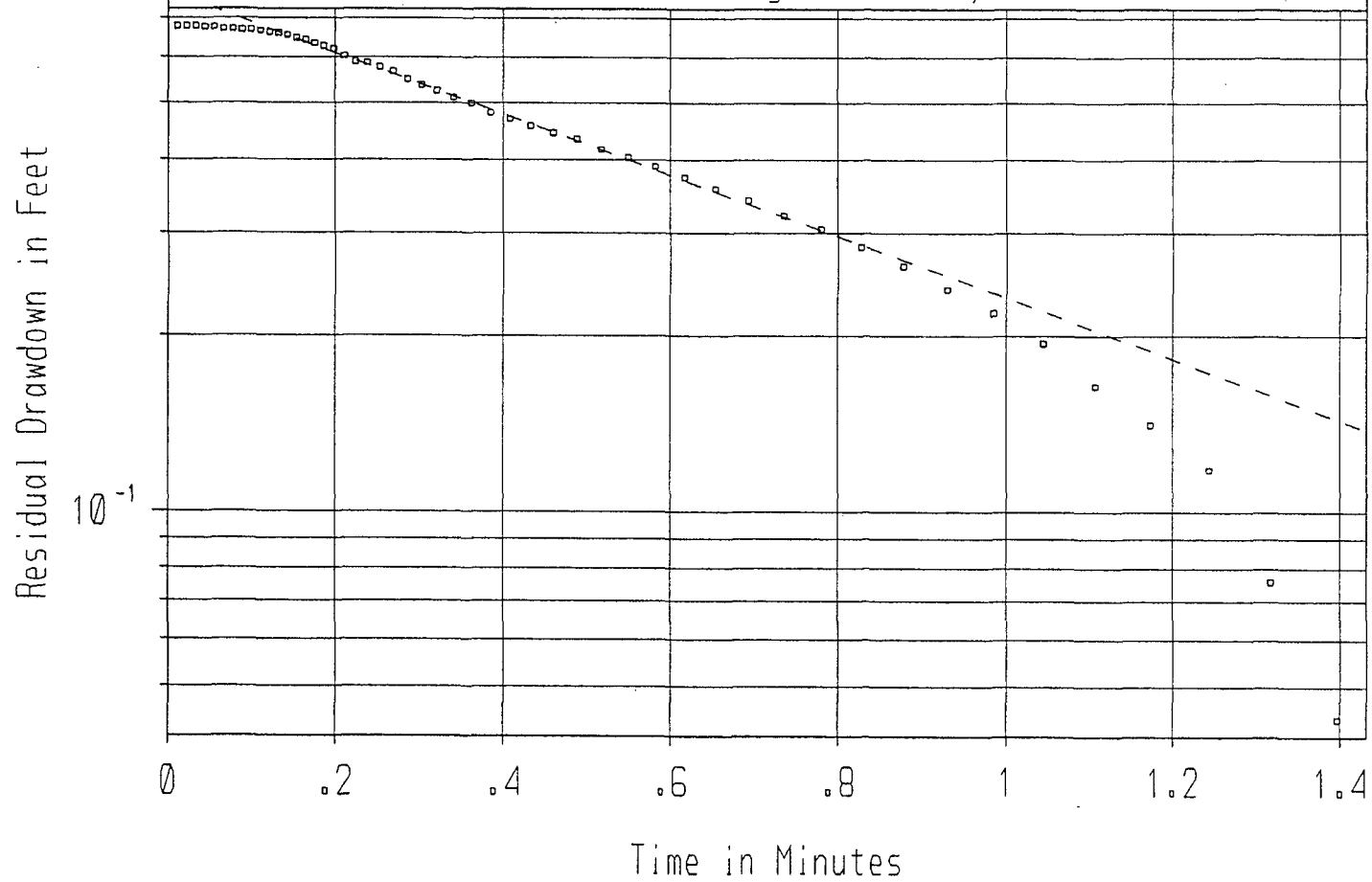
302326



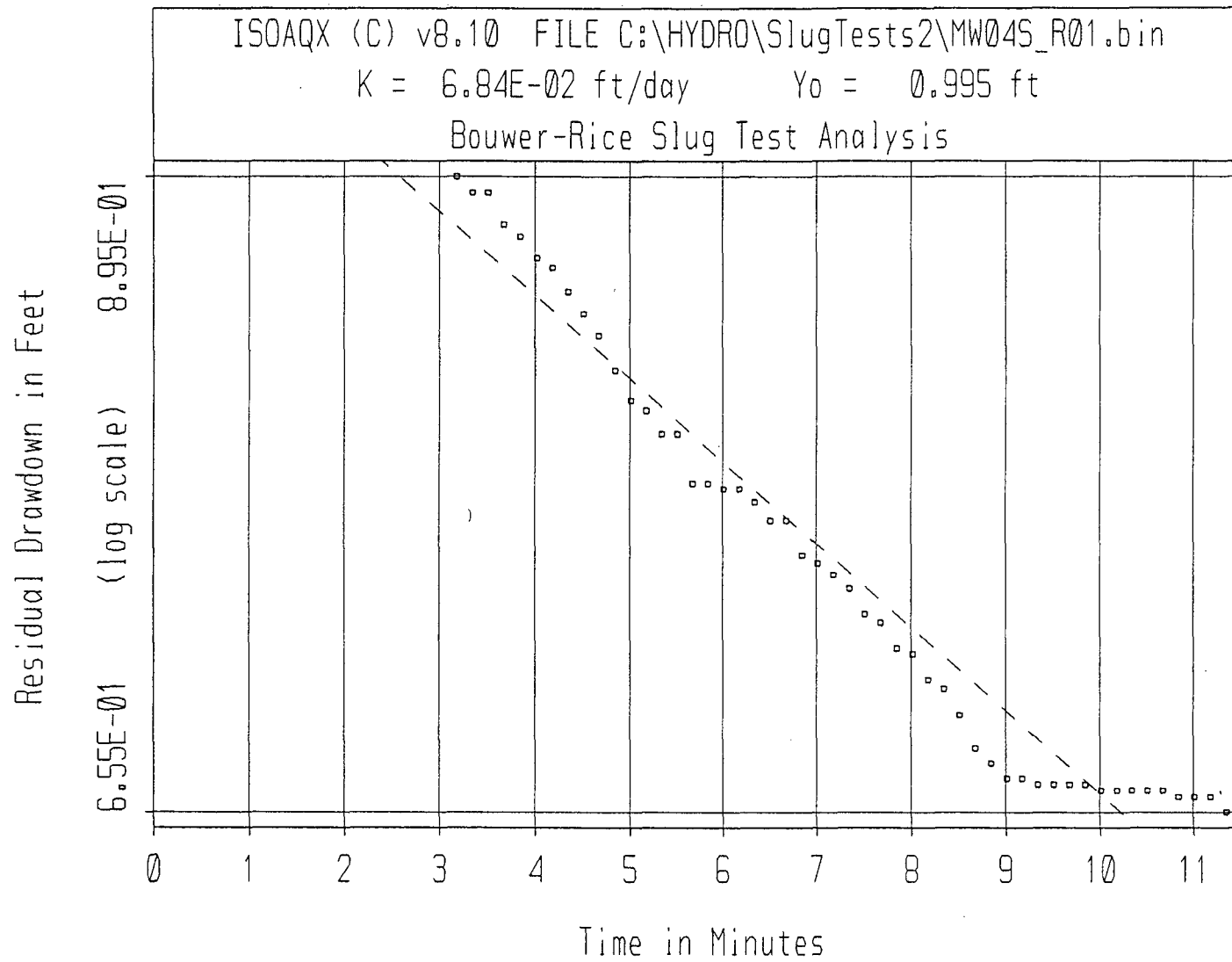
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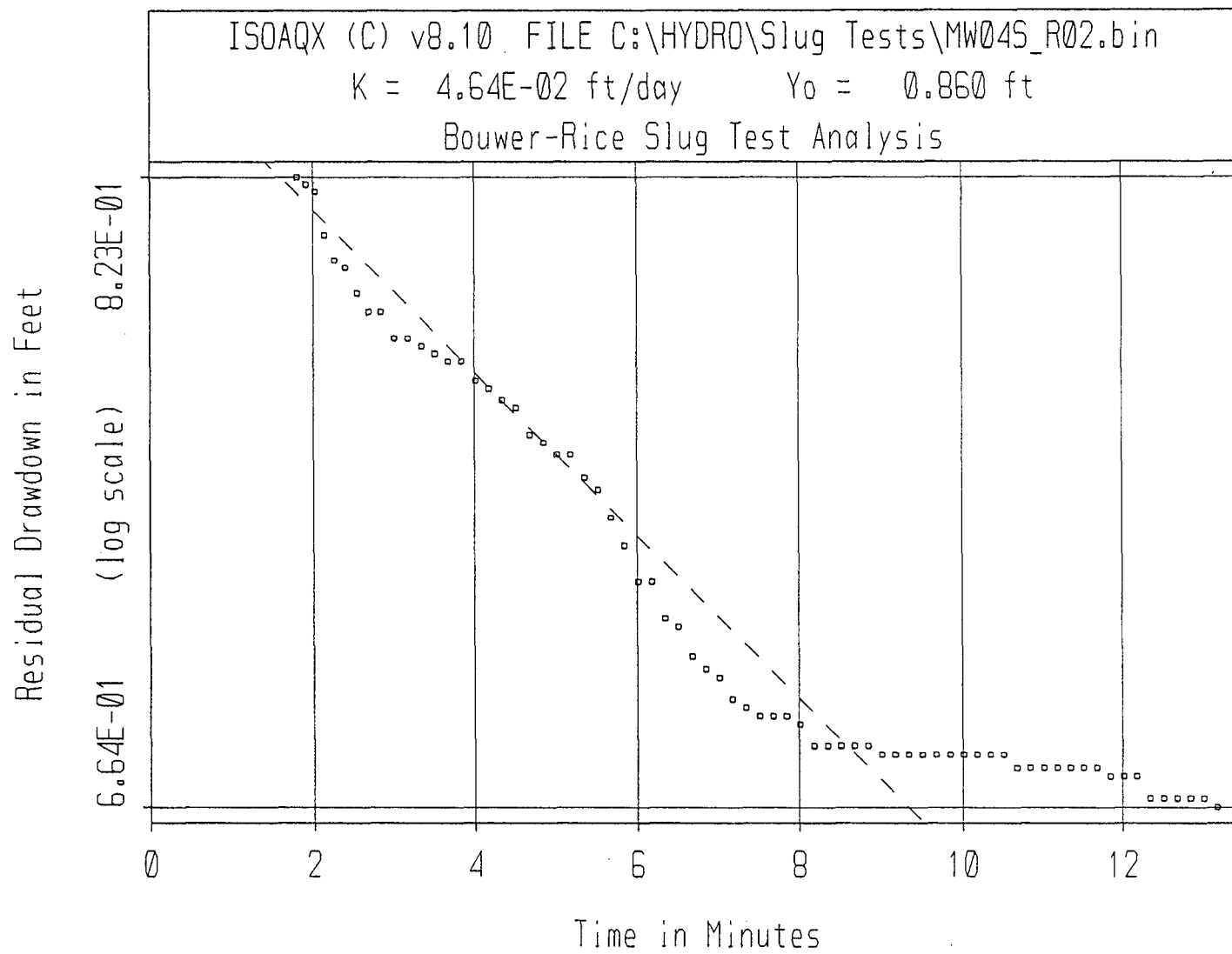
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Bouwer-Rice Slug Test Analysis



302327

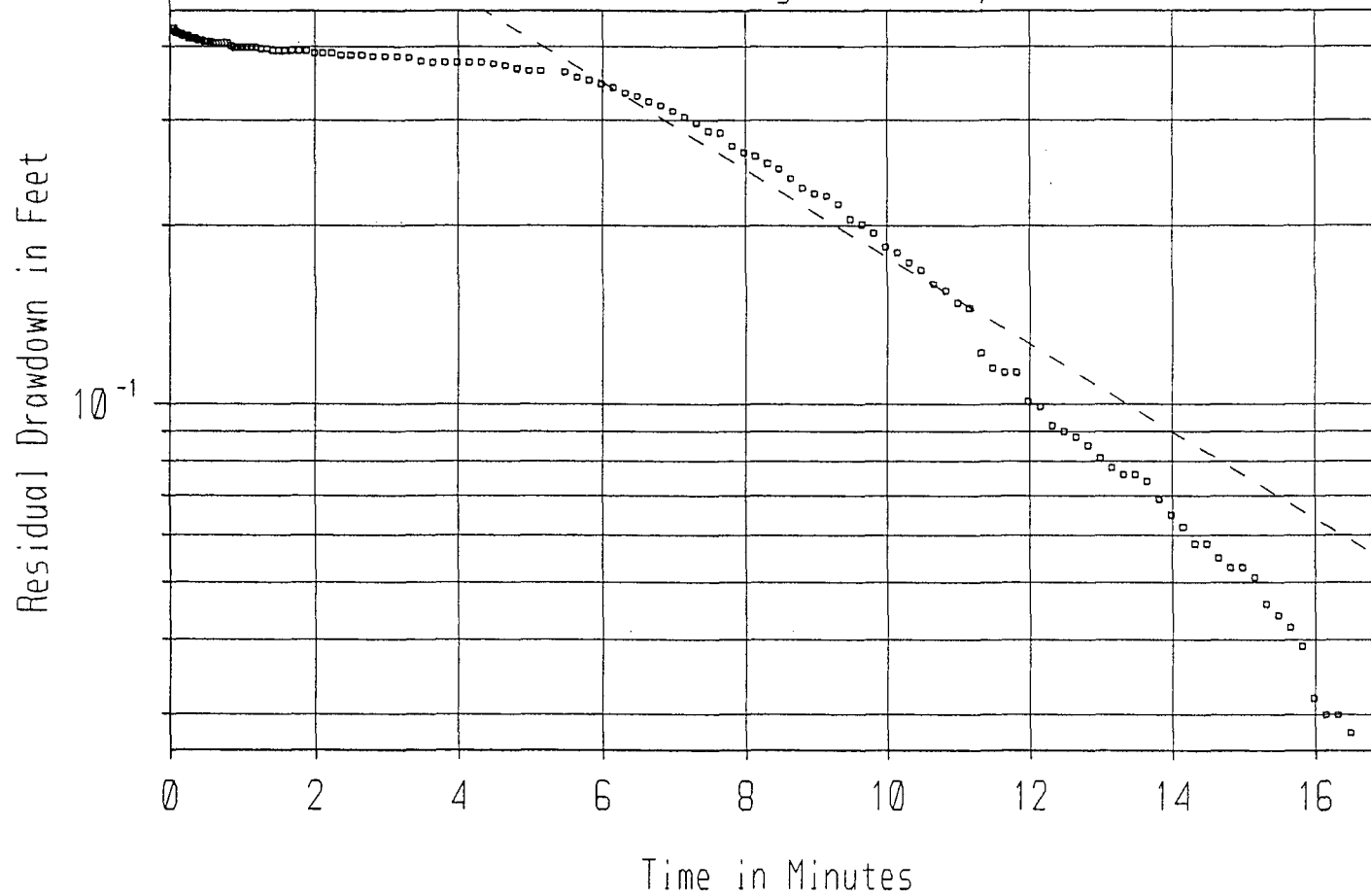




ISOAQX (C) v8.10 FILE C:\HYDRO\Slug Tests\MW04S_R03.bin

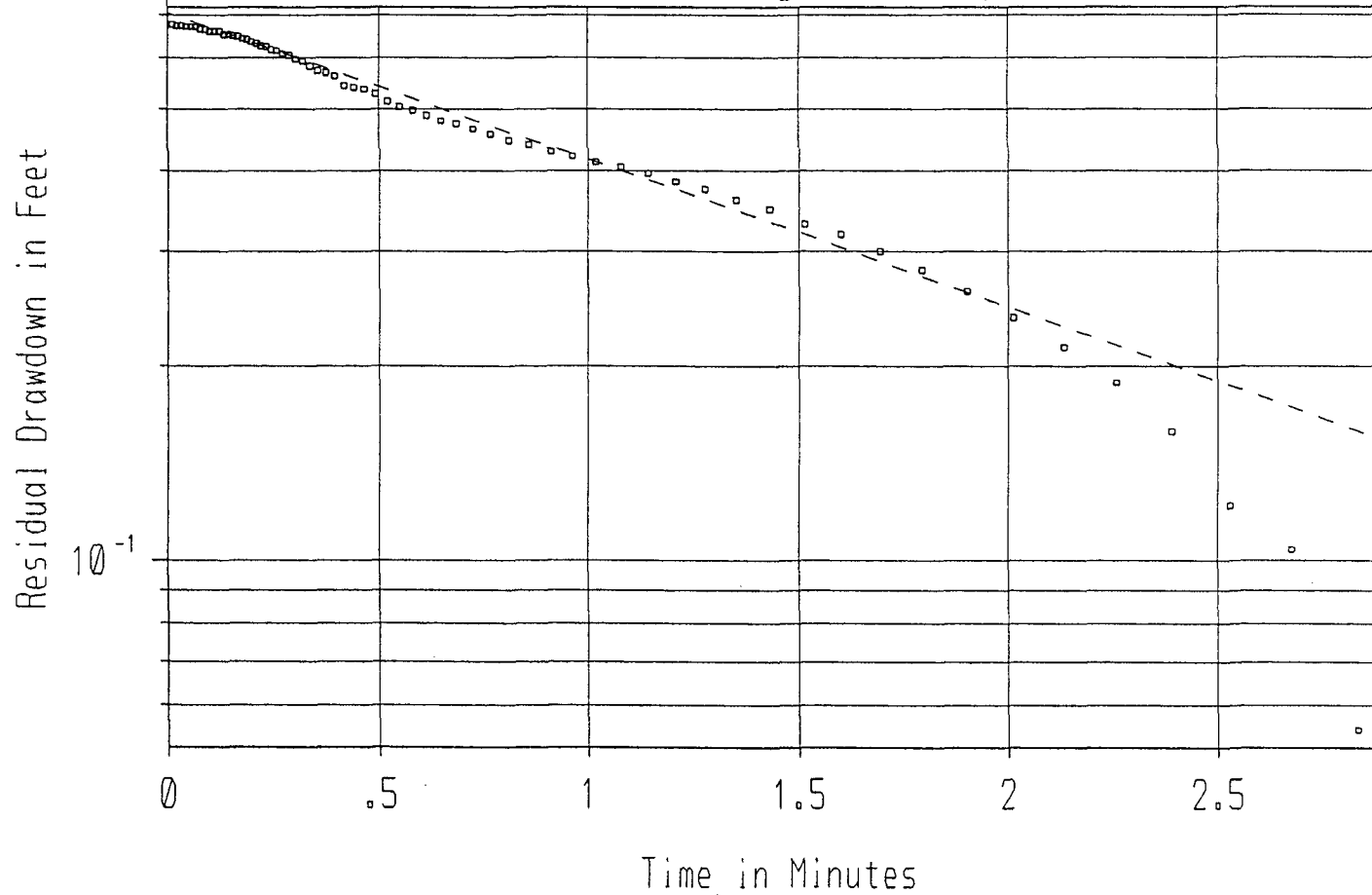
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Bouwer-Rice Slug Test Analysis

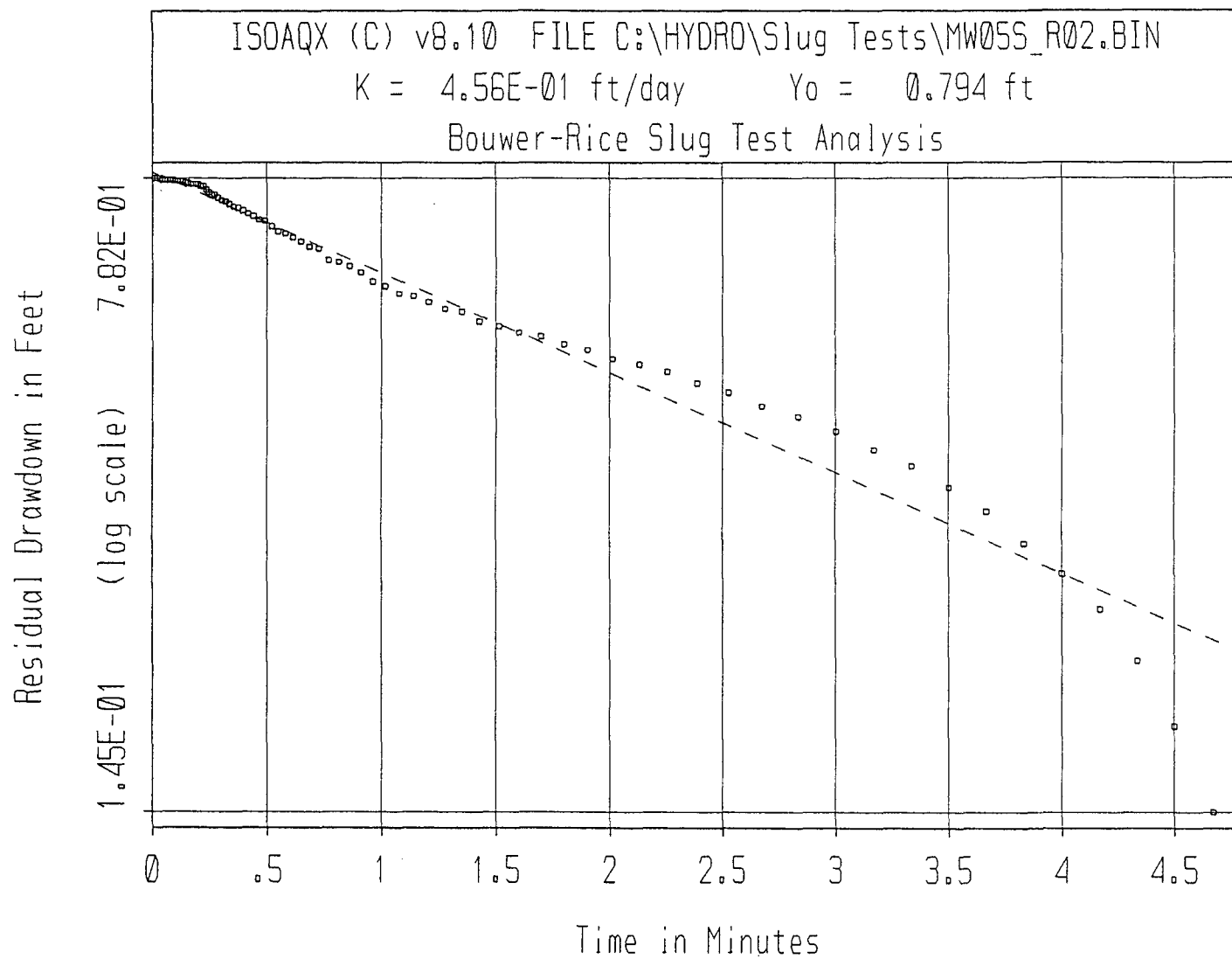


302330

ISOAQX (C) v8.10 FILE C:\HYDRO\Slug Tests\MW05S_R01.bin
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Bouwer-Rice Slug Test Analysis



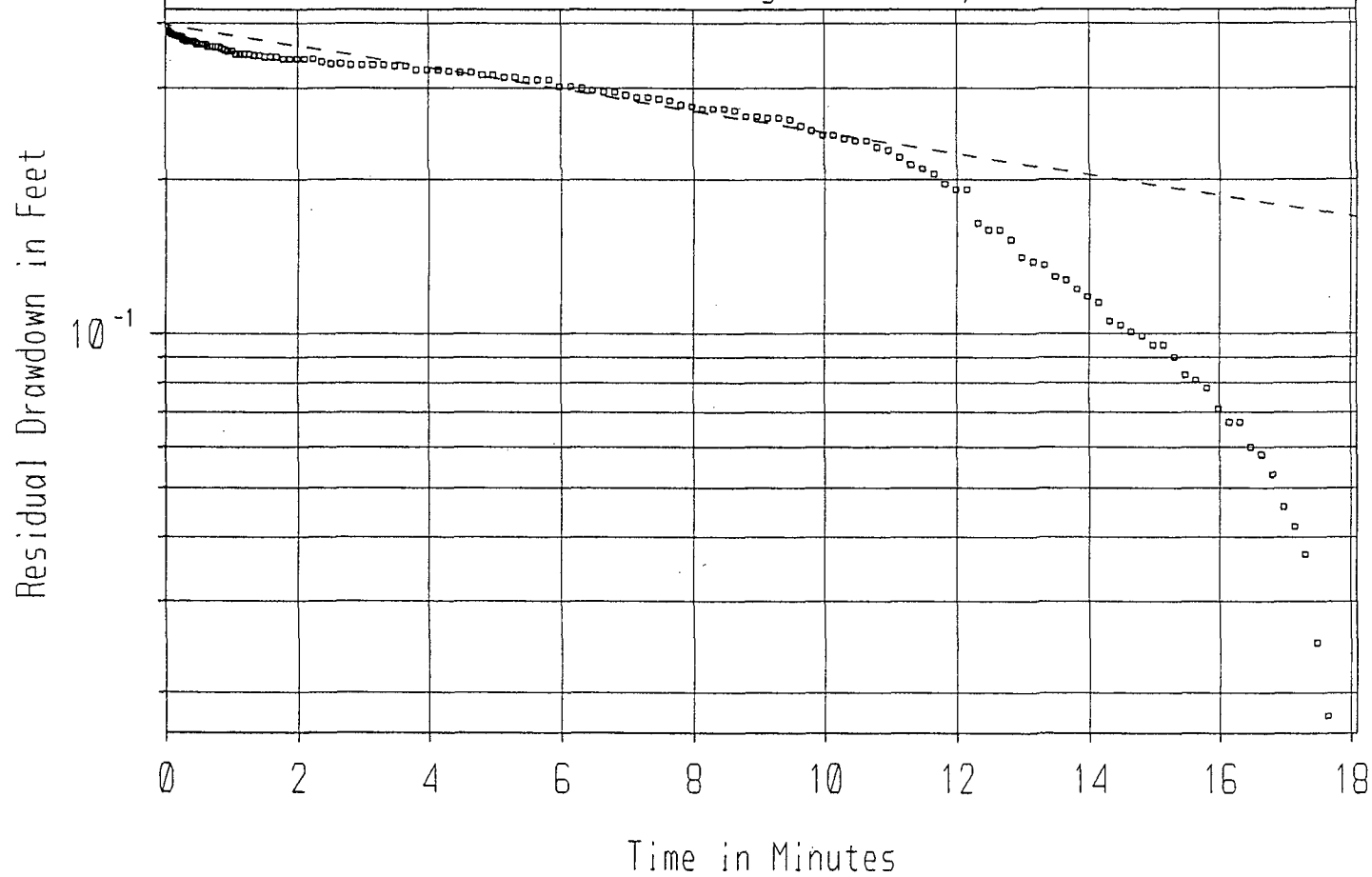
302331



ISOAQX (C) v8.10 FILE C:\HYDRO\Slug Tests\MW085_R02.bin

K = 2.61E-01 ft/day Yo = 0.396 ft

Bouwer-Rice Slug Test Analysis



ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW9s_F01.bin

K = 1.58 ft/day Yo = 0.991 ft

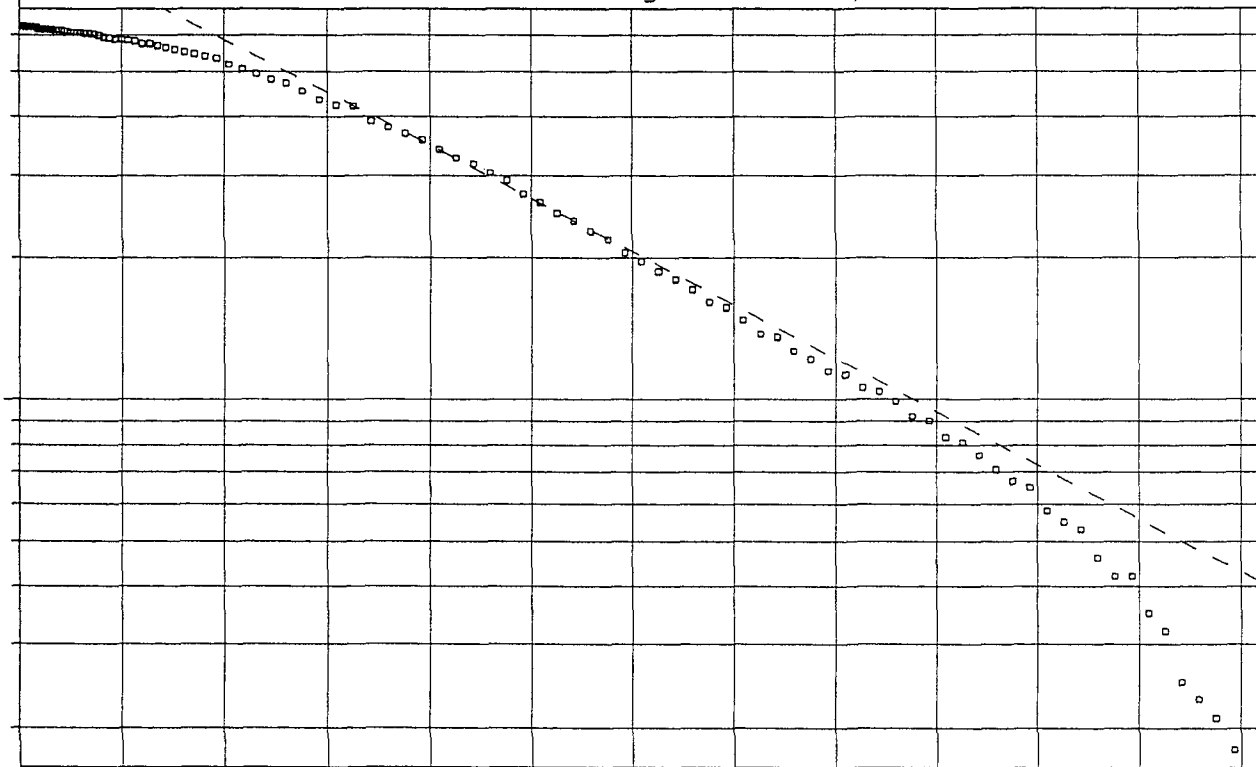
Bouwer-Rice Slug Test Analysis

Residual Drawdown in Feet

10^{-1}

0 1 2 3 4 5 6 7 8 9 10 11 12

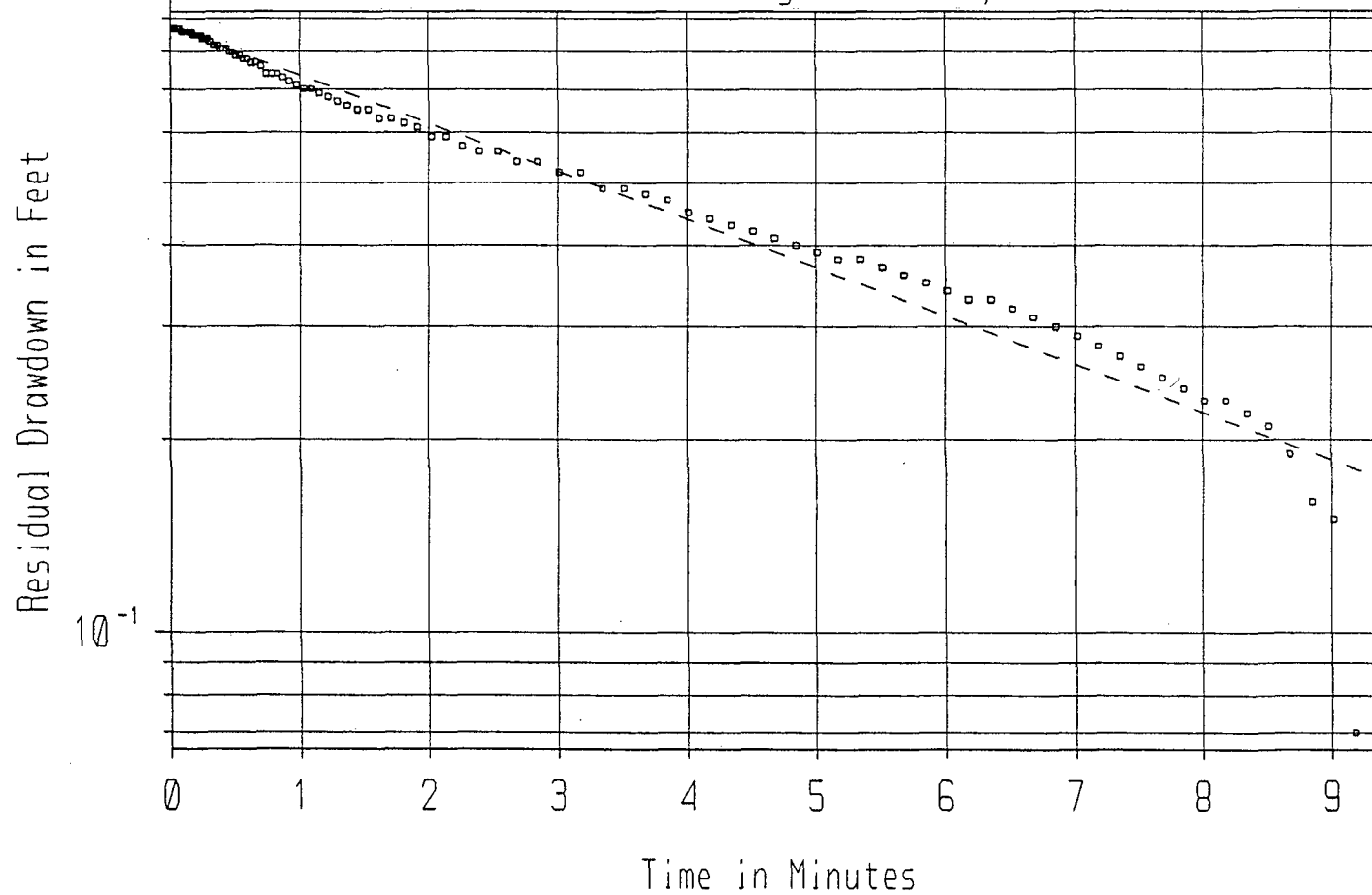
Time in Minutes



ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW9S_R01.bin

K = 1.04 ft/day Y₀ = 0.873 ft

Bouwer-Rice Slug Test Analysis

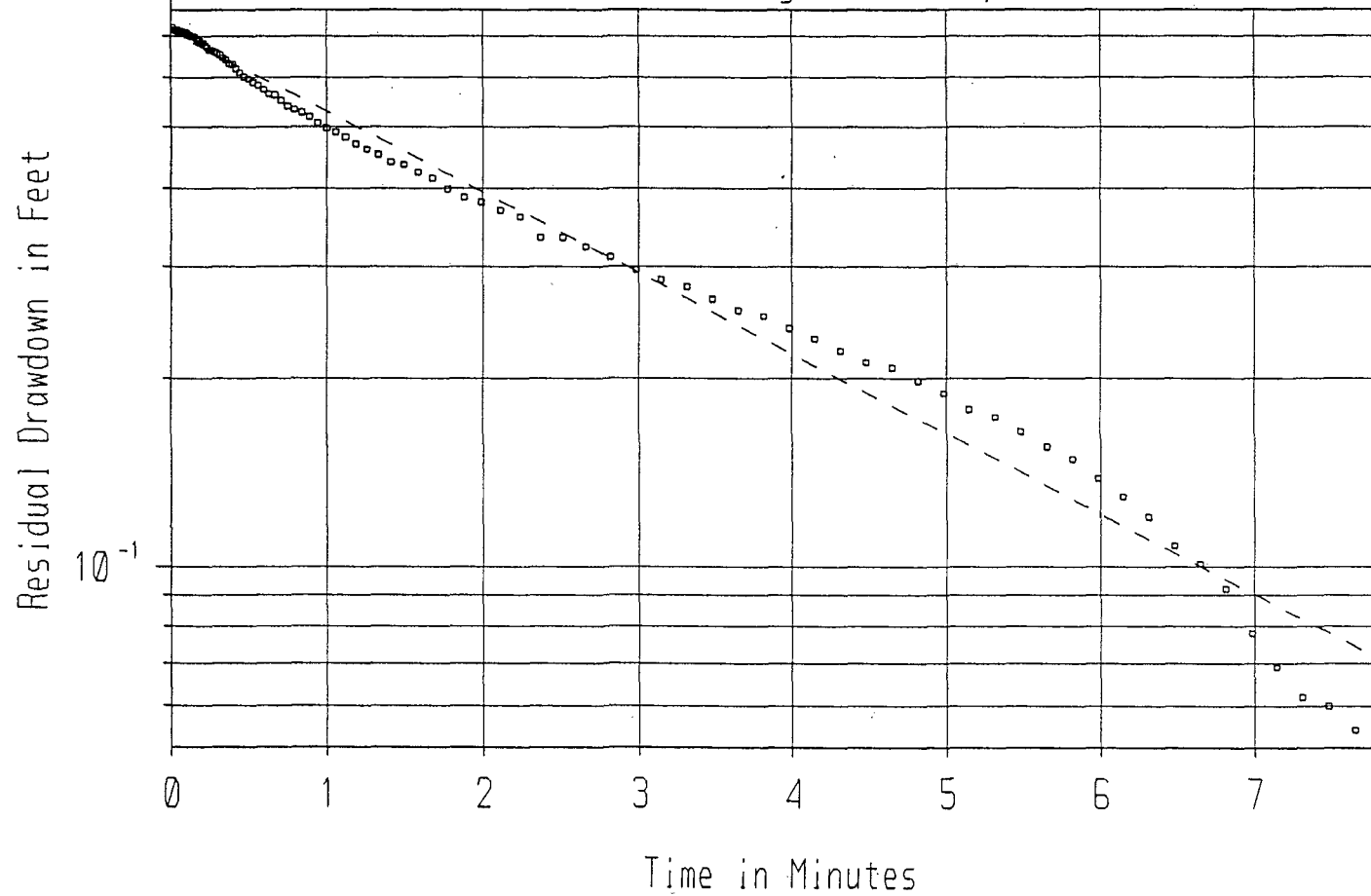


302335

ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW9S_R02.bin

K = 1.78 ft/day Y₀ = 0.710 ft

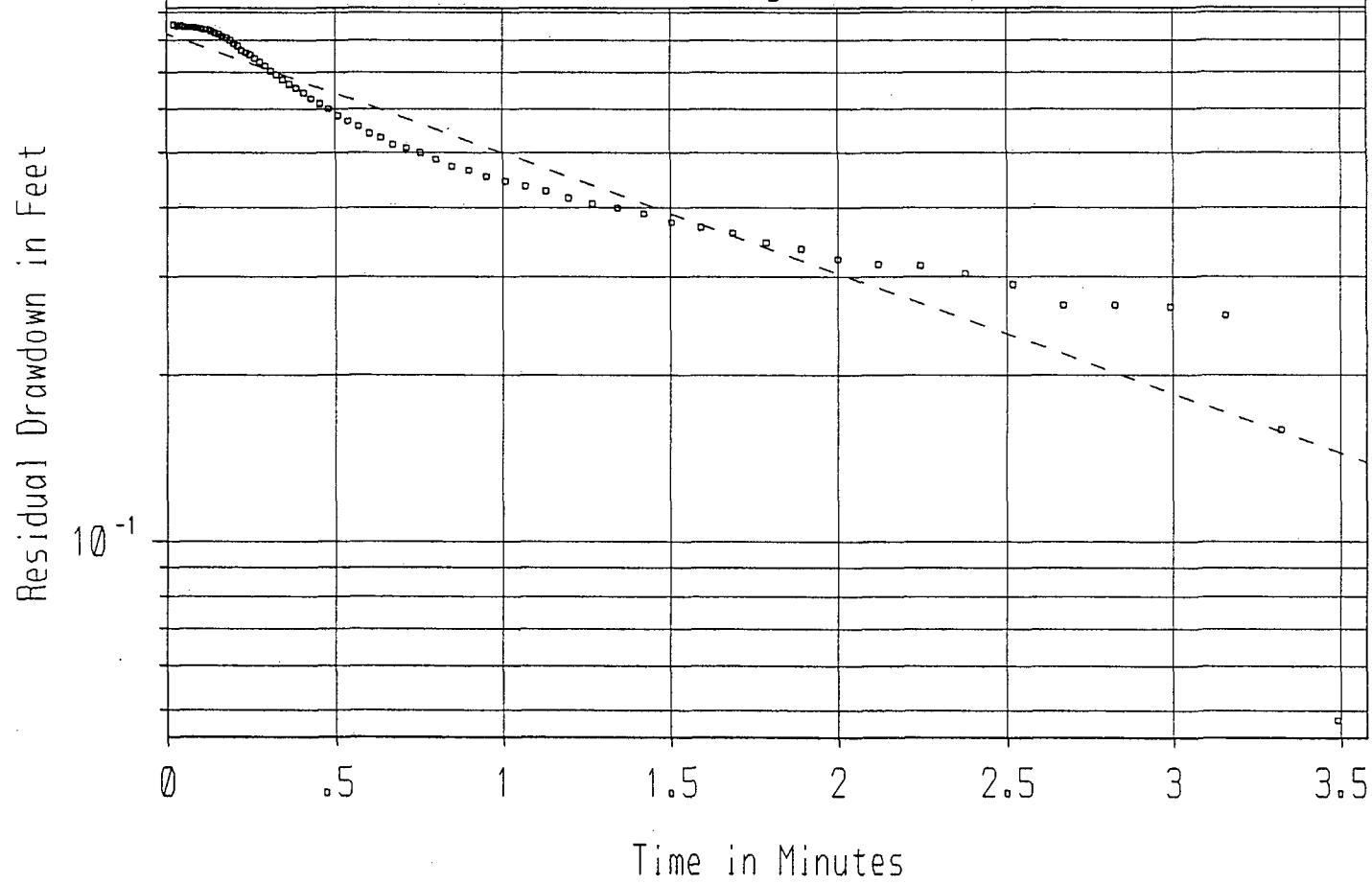
Bouwer-Rice Slug Test Analysis



ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW9D_F01.bin

K = 3.36 ft/day Yo = 0.821 ft

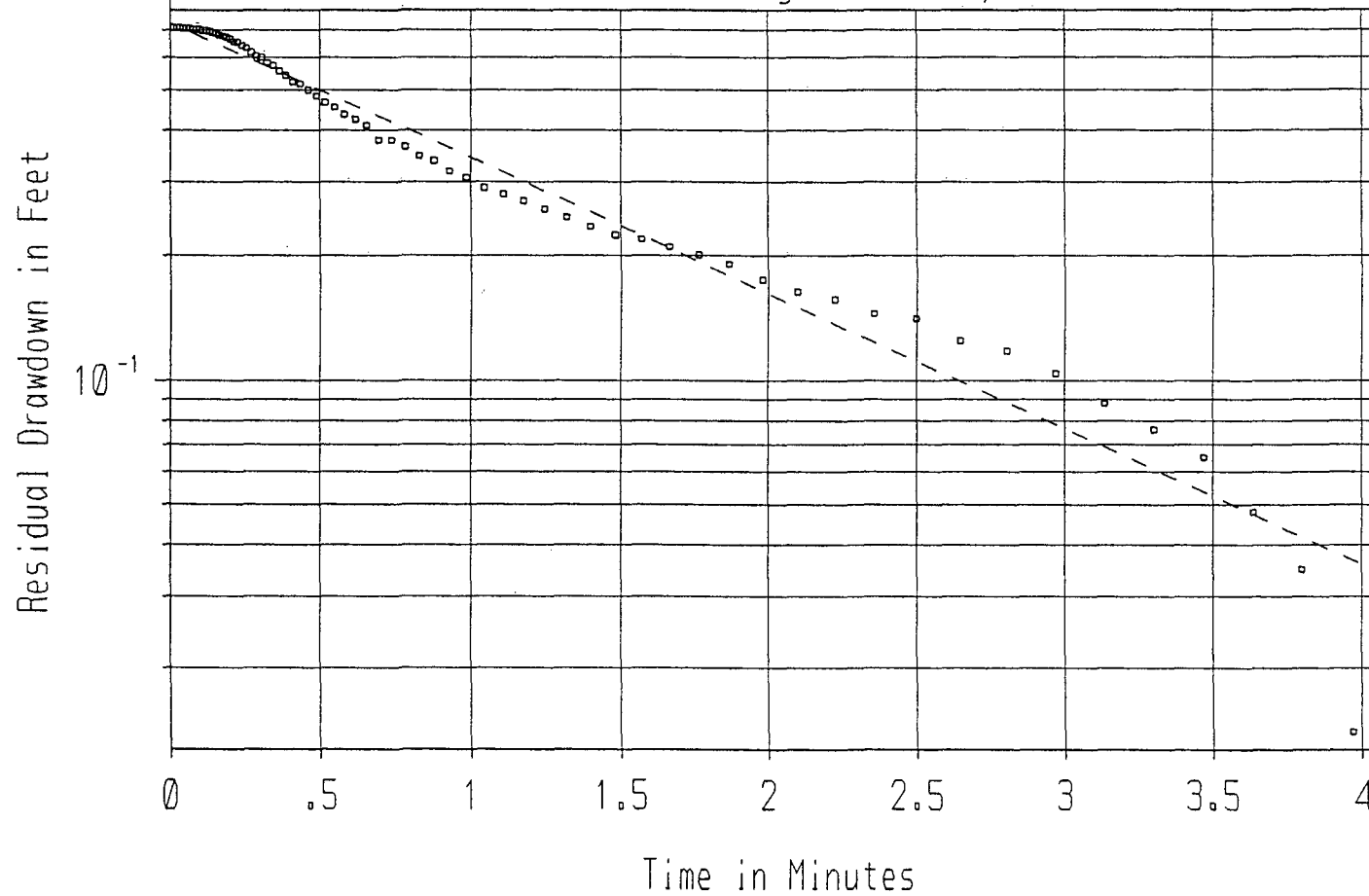
Bouwer-Rice Slug Test Analysis

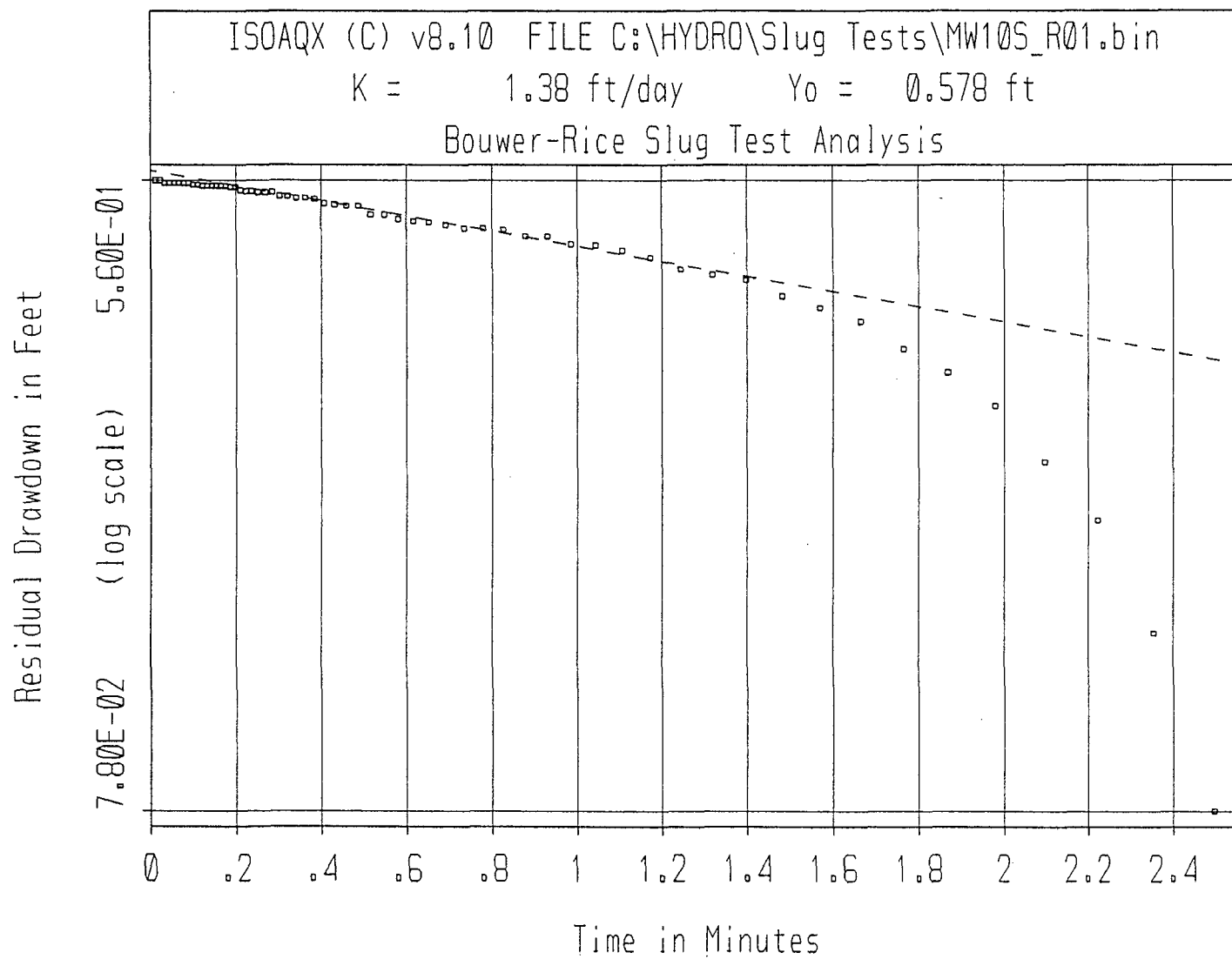


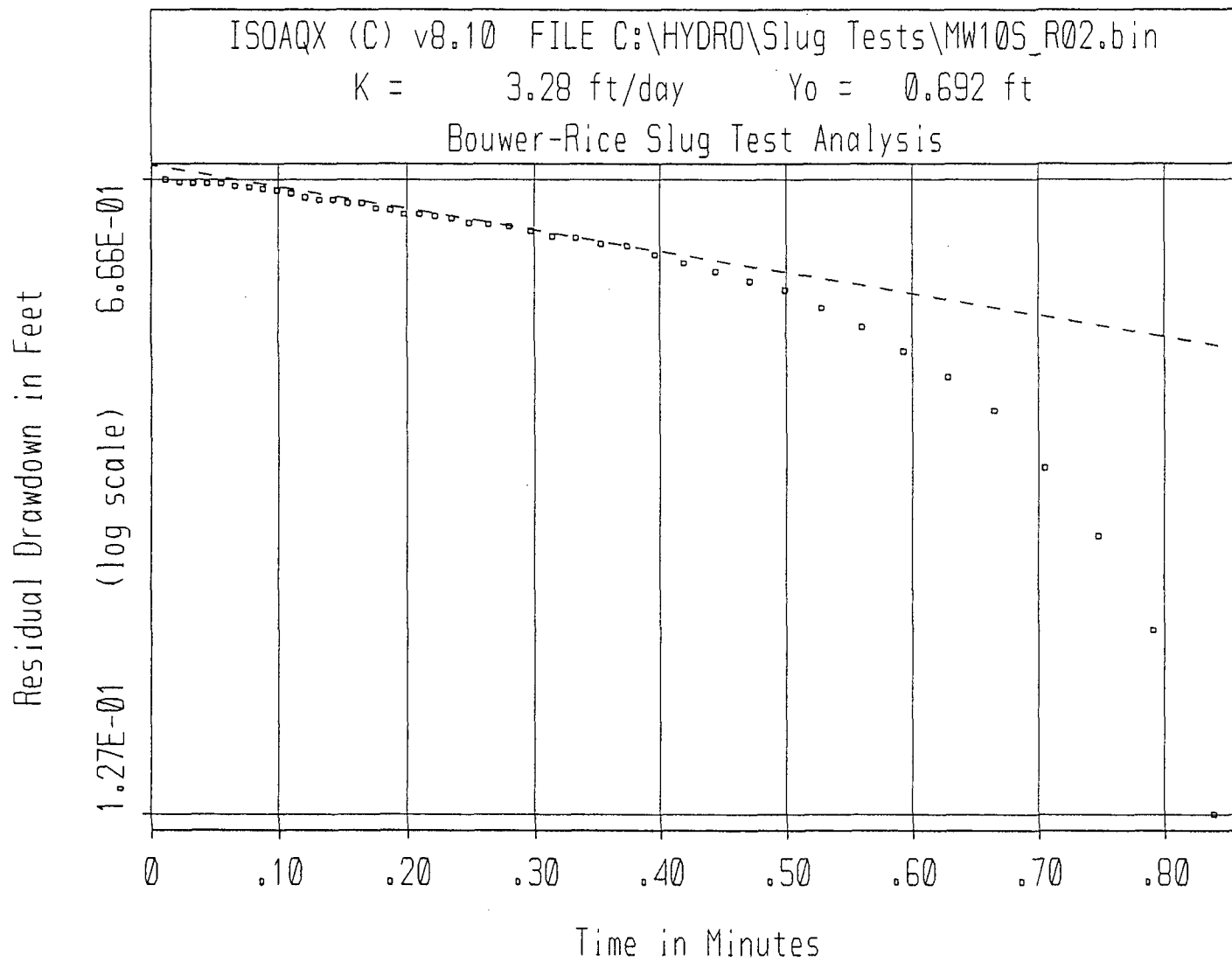
ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW9D_R01.bin

K = 5.08 ft/day Yo = 0.728 ft

Bouwer-Rice Slug Test Analysis



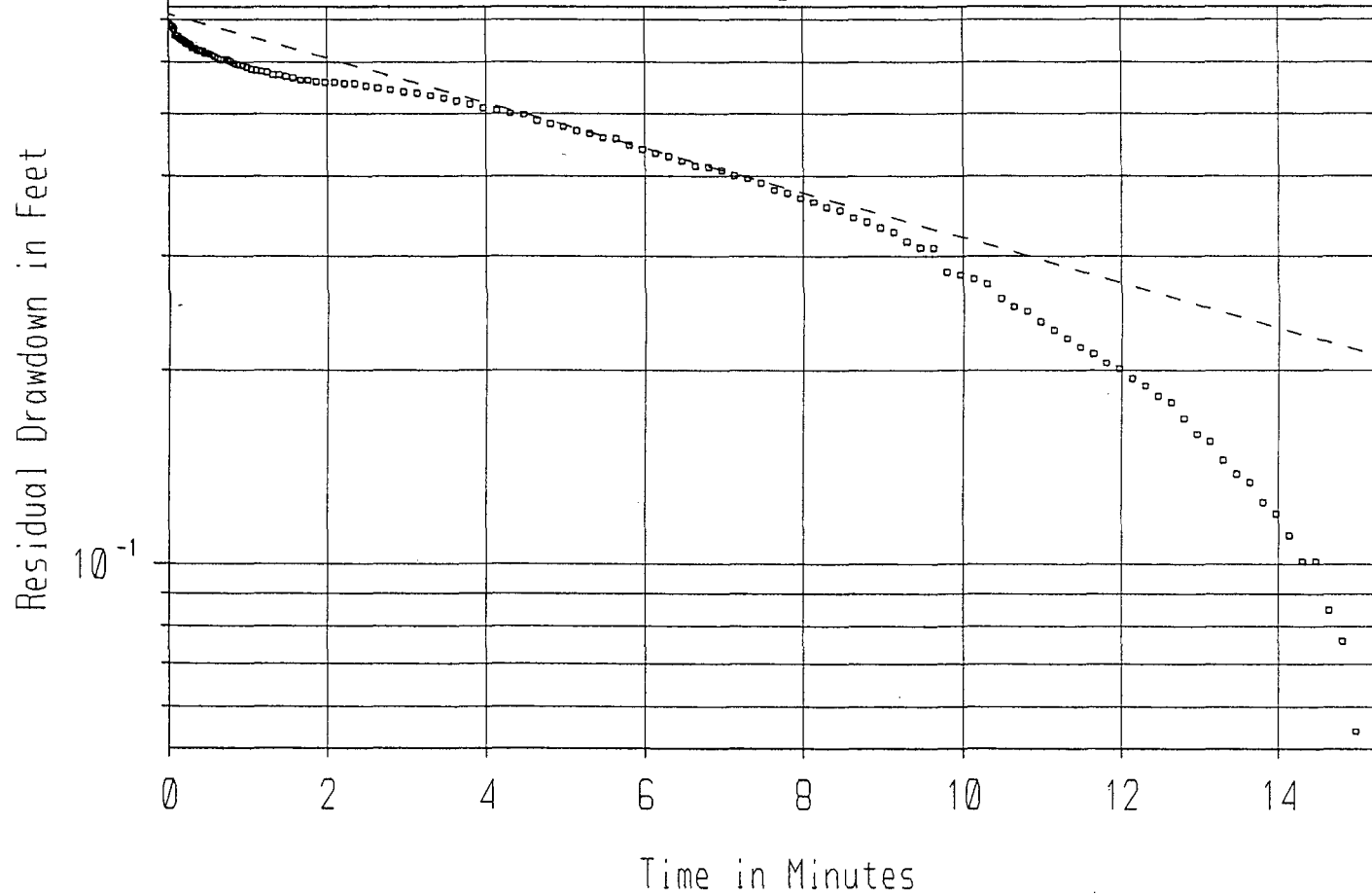




ISOAQX (C) v8.10 FILE C:\HYDRO\Slug Tests\MW115_R01.bin

$K = 4.75E-01$ ft/day $Y_0 = 0.715$ ft

Bouwer-Rice Slug Test Analysis

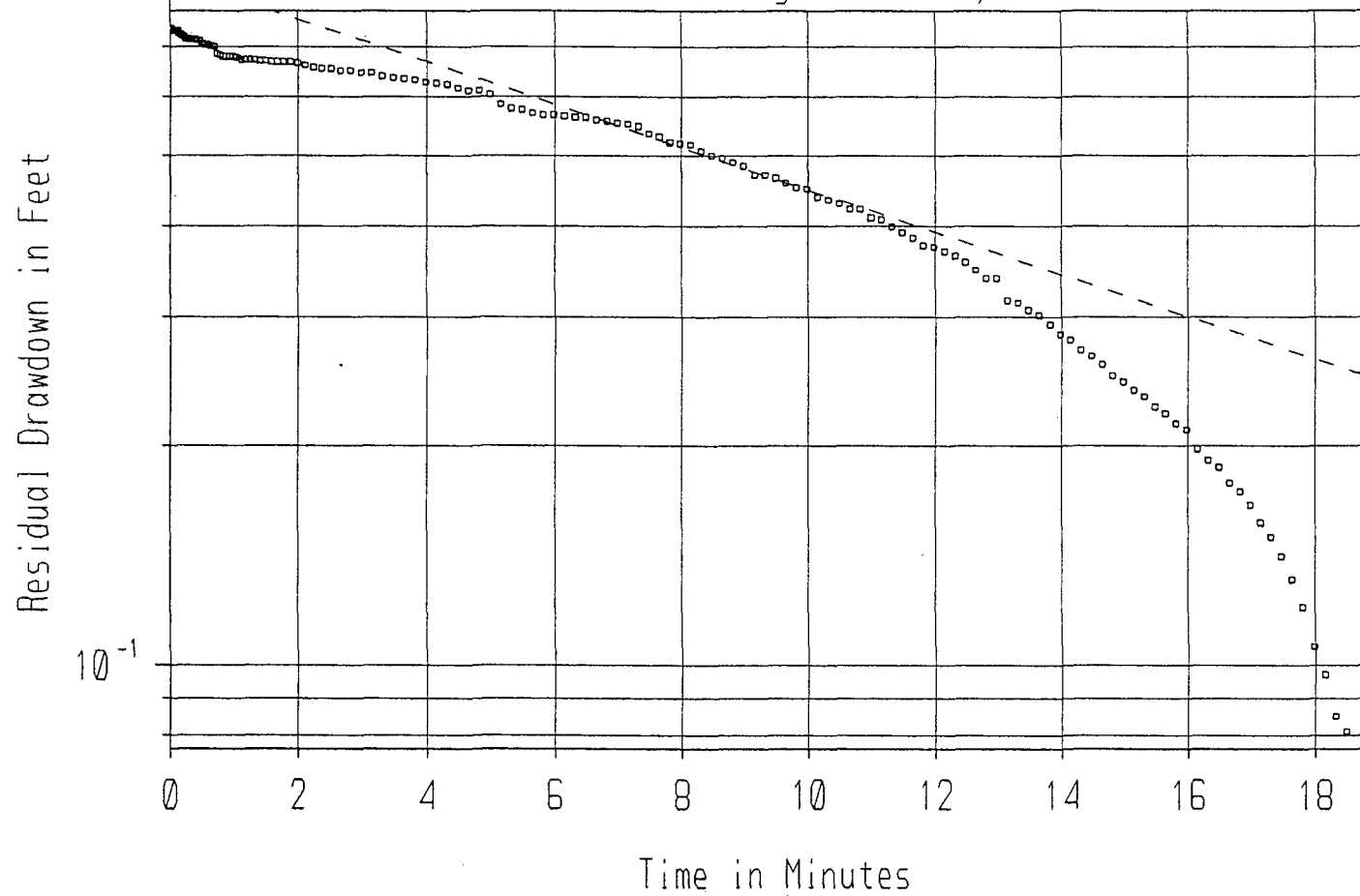


302341

ISOAQX (C) v8.10 FILE C:\HYDRO\Slug Tests\MW11S_R02.bin

$K = 3.96E-01$ ft/day $Y_0 = 0.874$ ft

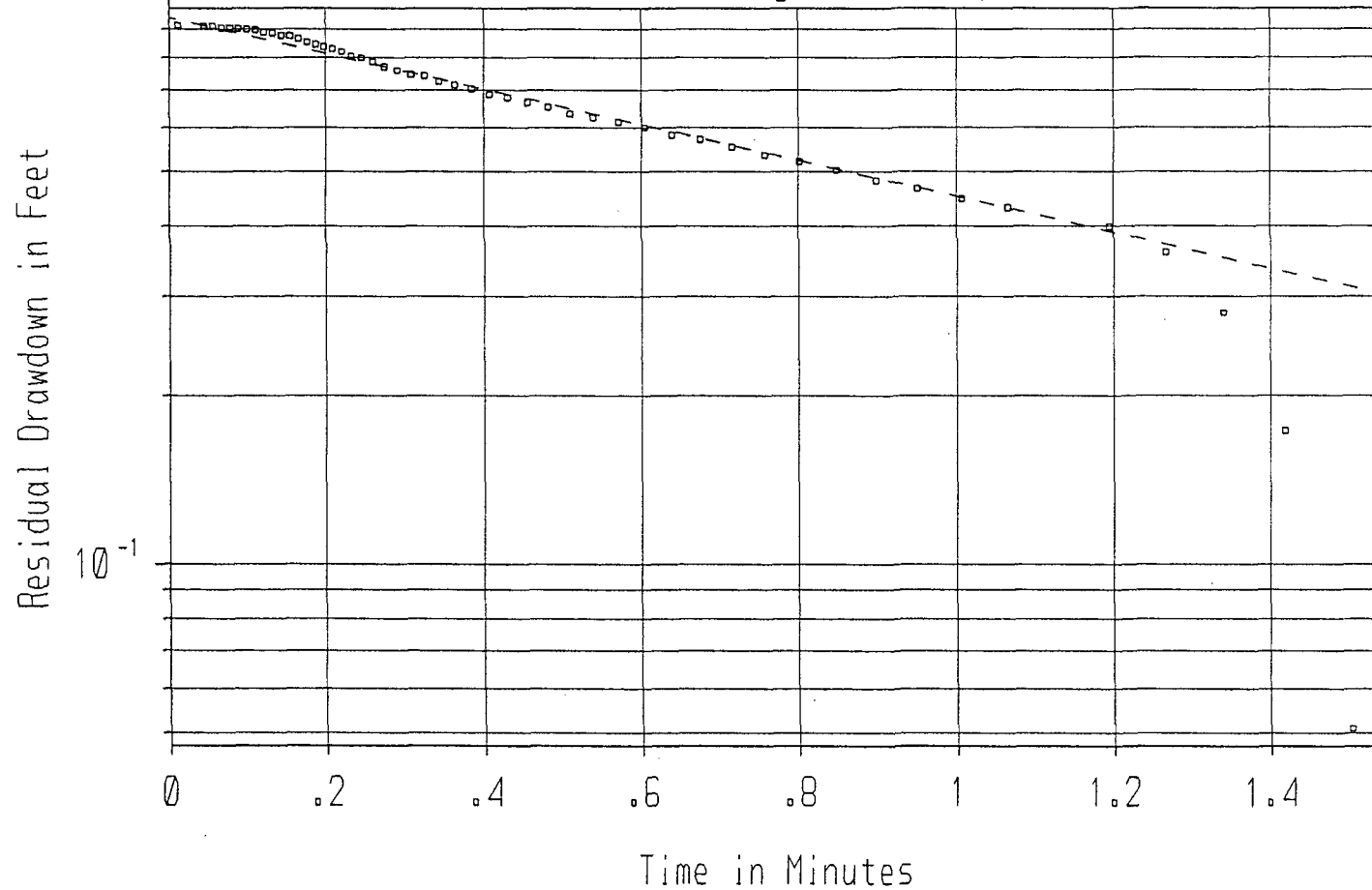
Bouwer-Rice Slug Test Analysis

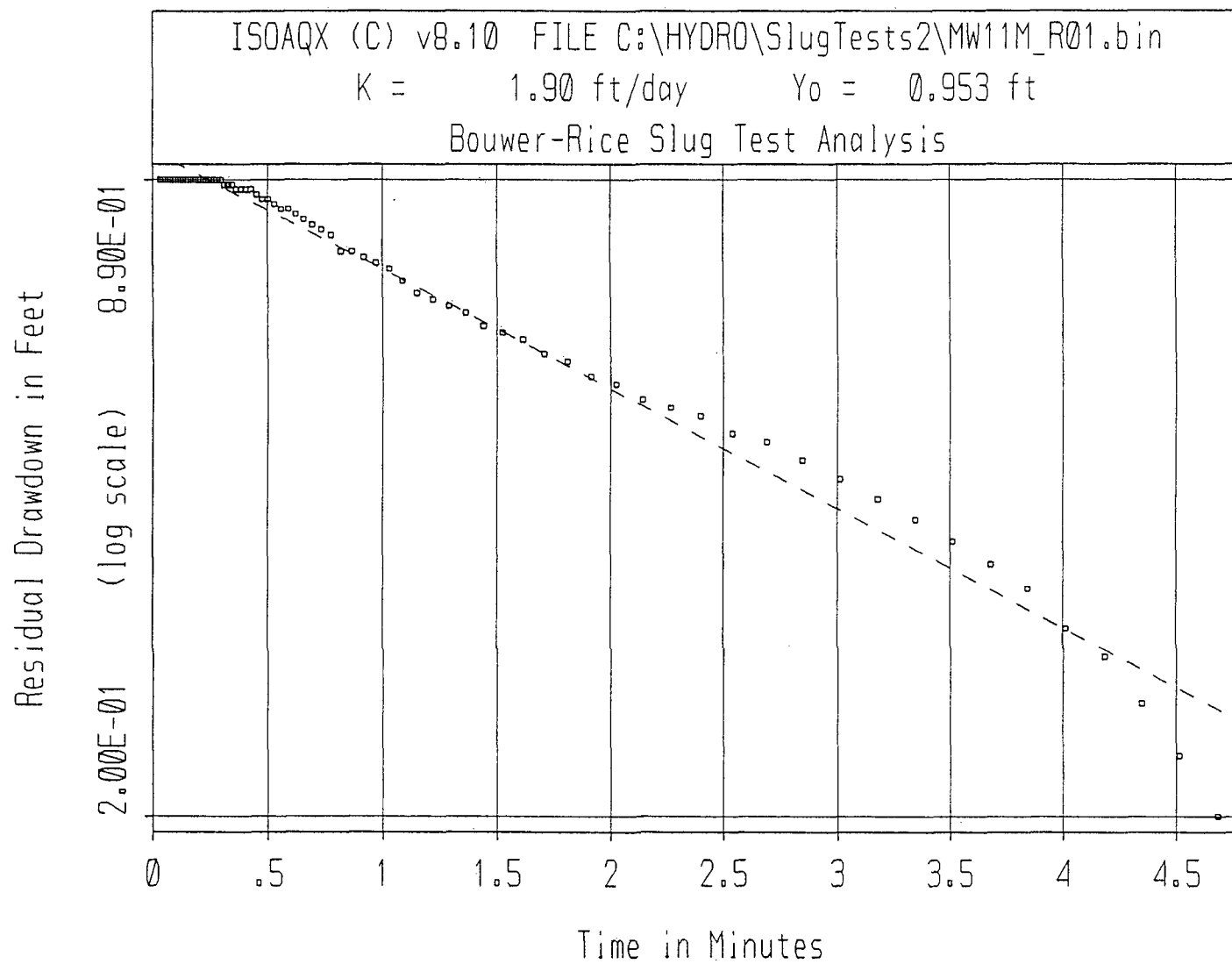


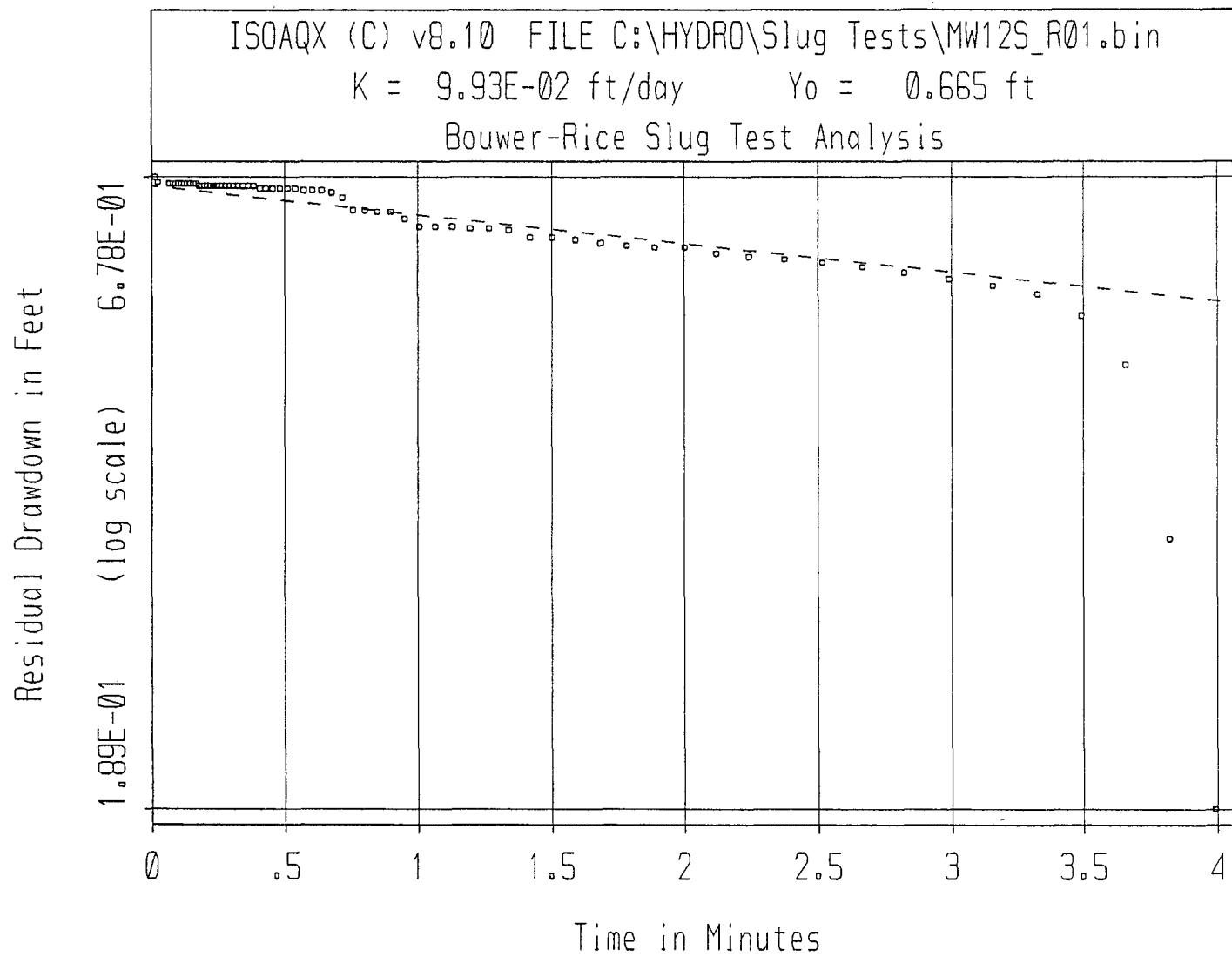
ISOAQX (C) v8.10 FILE C:\HYDRO\Slug Tests\MW11M_F01.bin

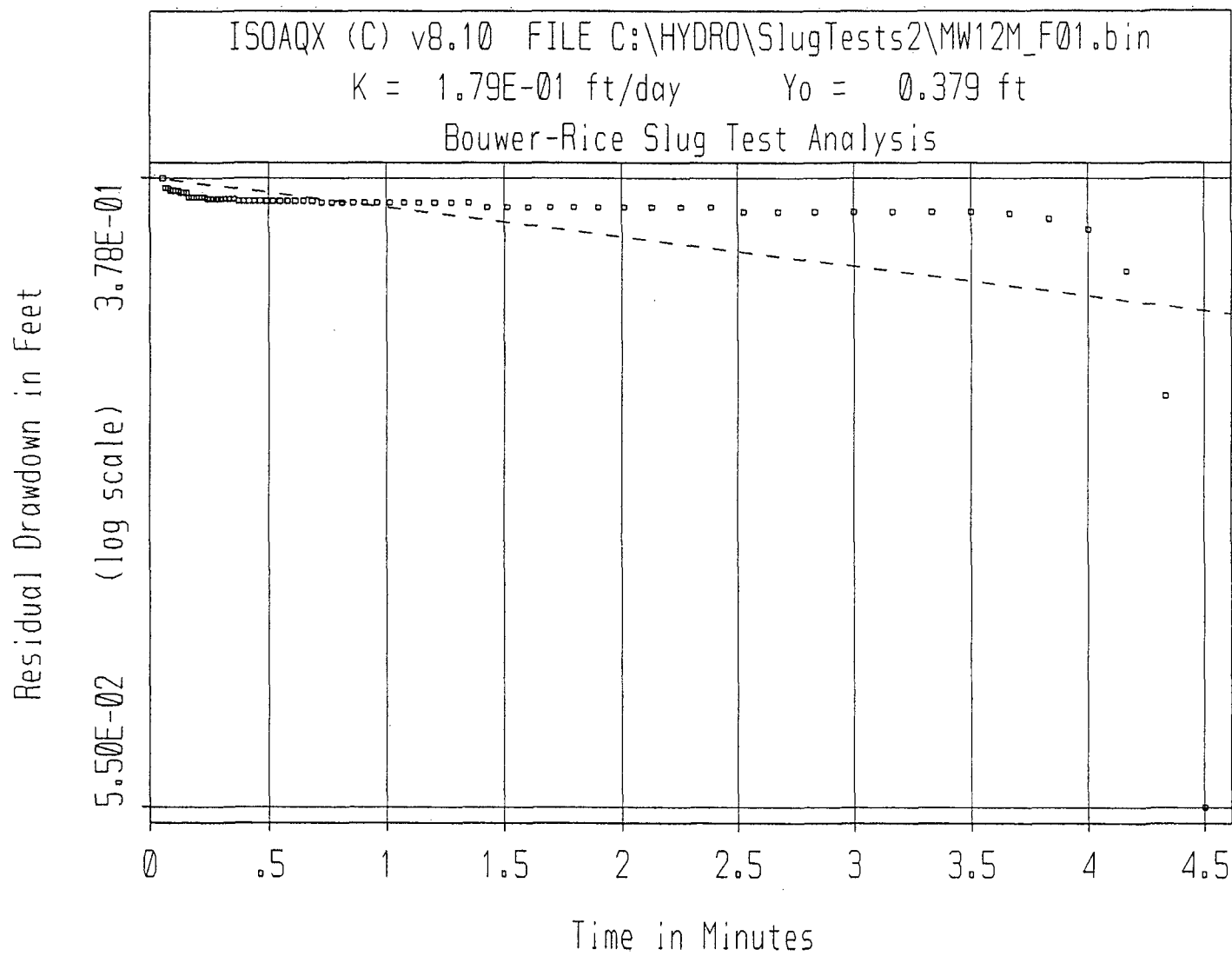
K = 4.99 ft/day Yo = 0.942 ft

Bouwer-Rice Slug Test Analysis





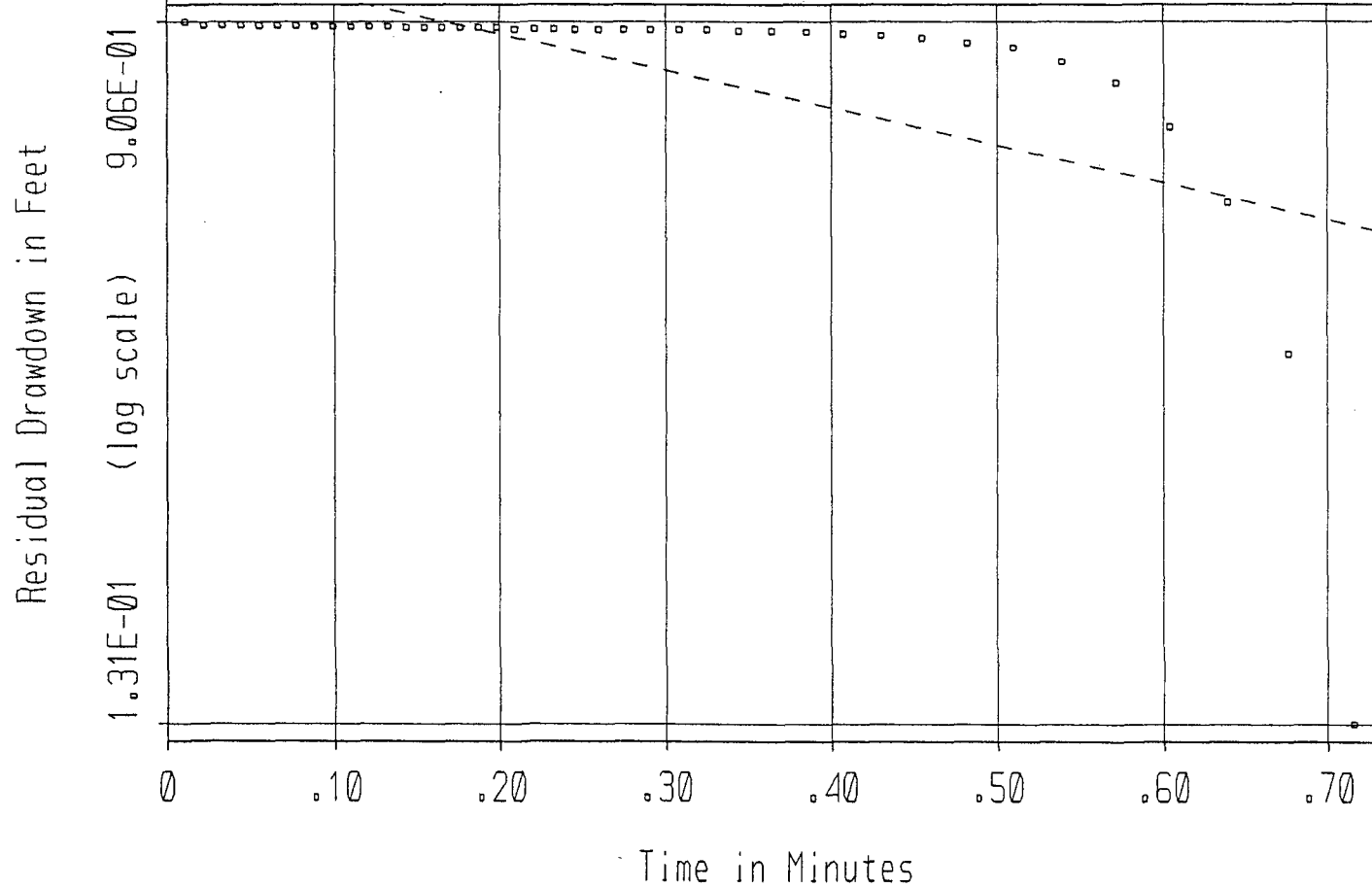


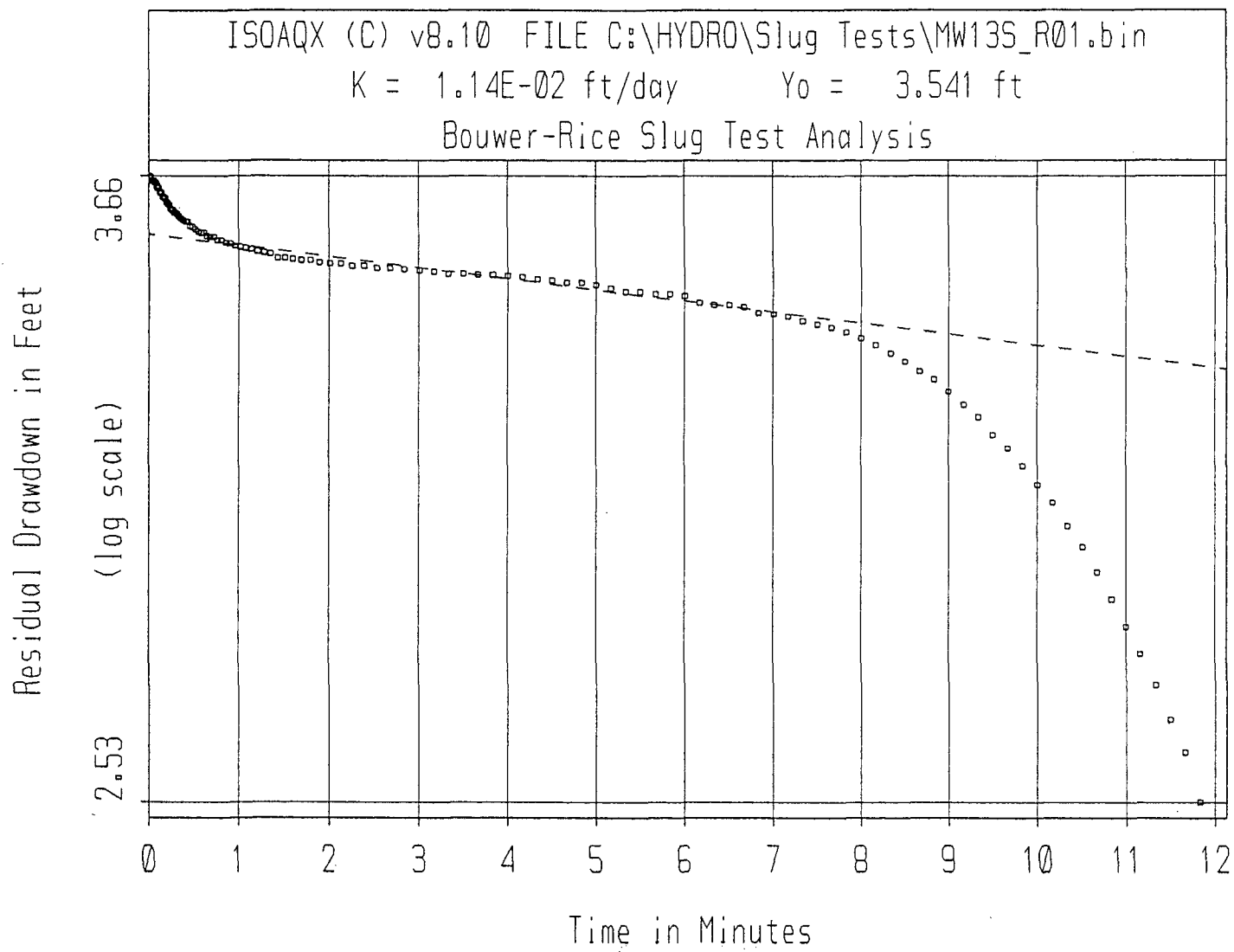


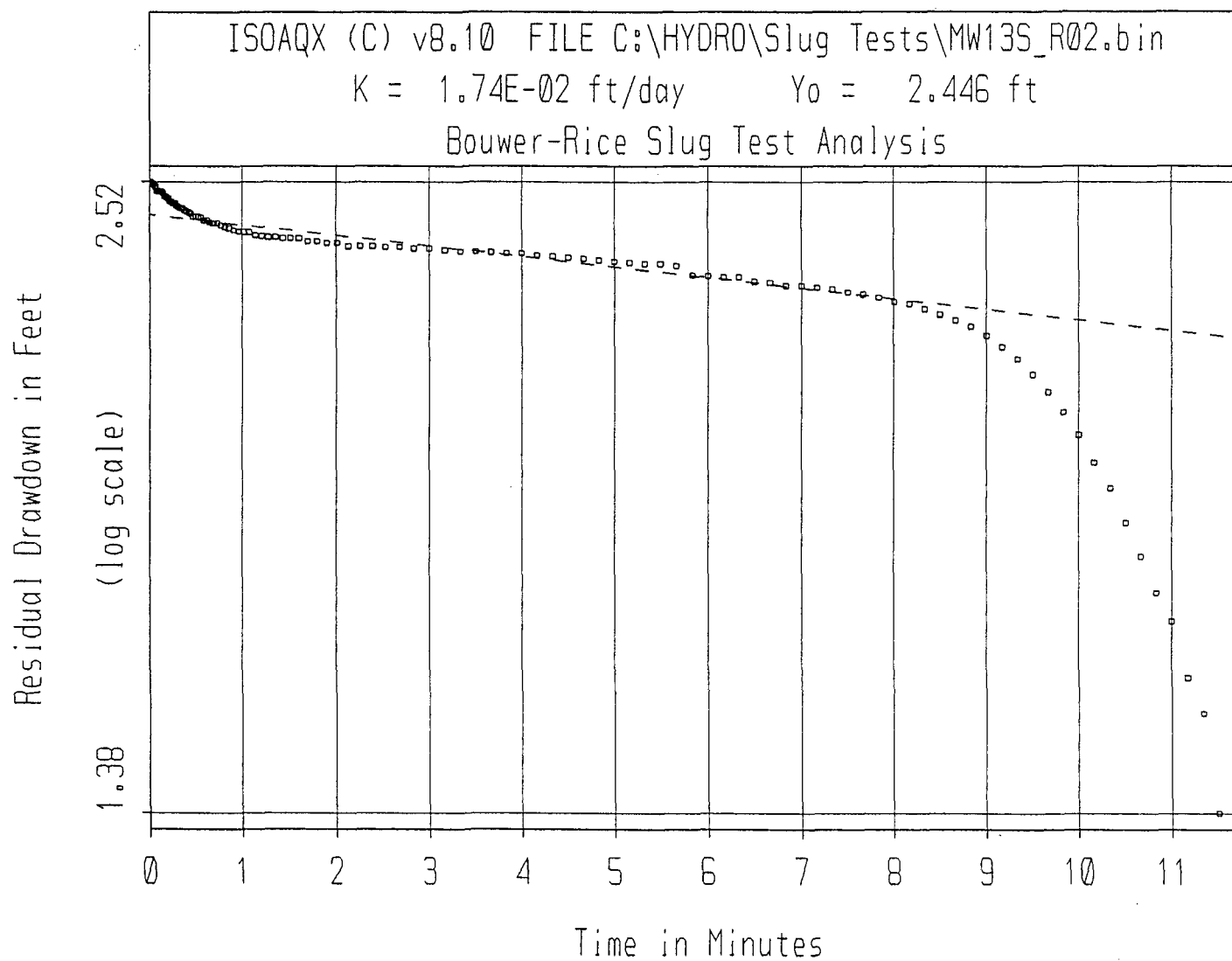
ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW12M_R01.bin

K = 2.02 ft/day Yo = 1.076 ft

Bouwer-Rice Slug Test Analysis



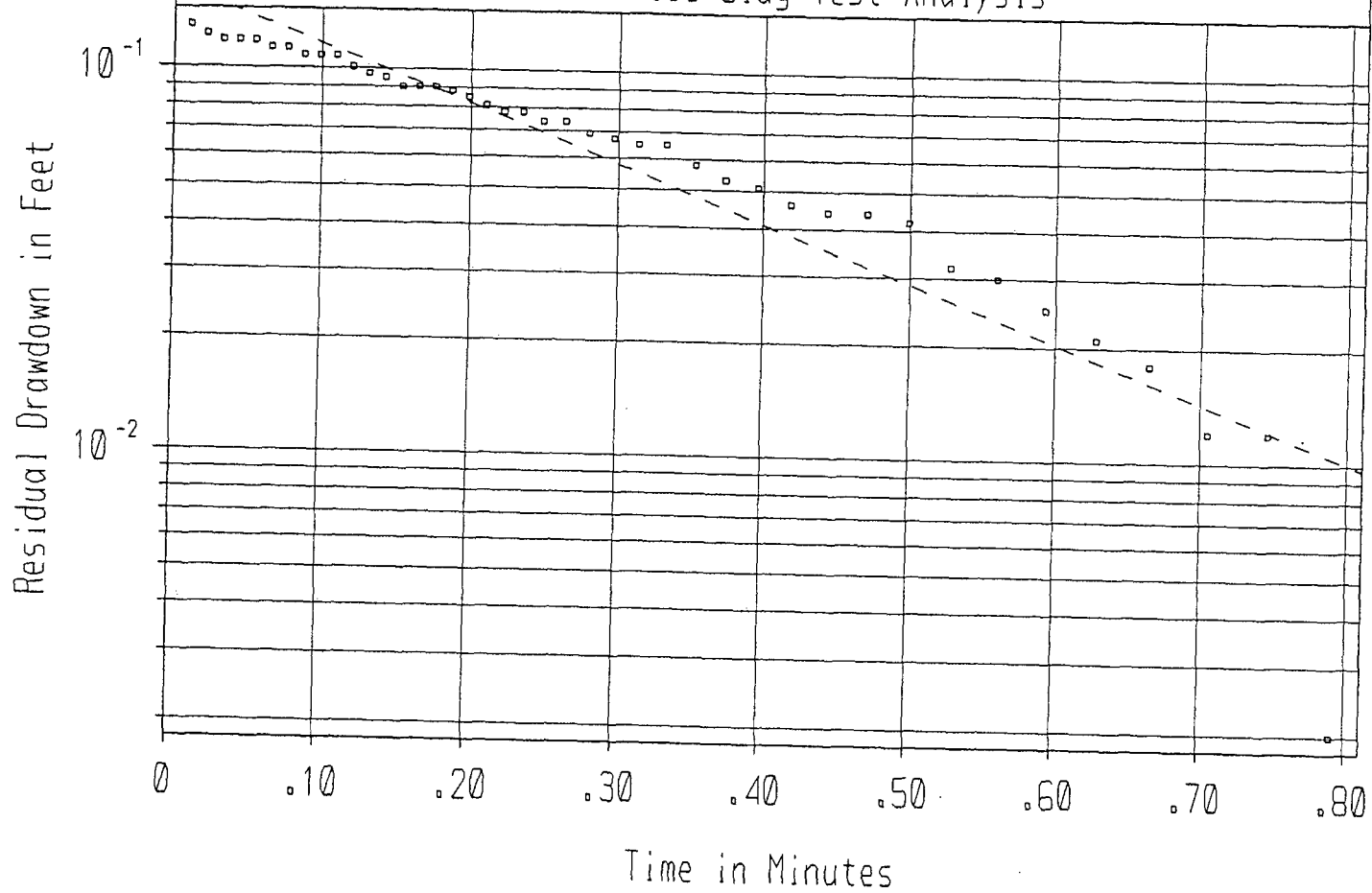


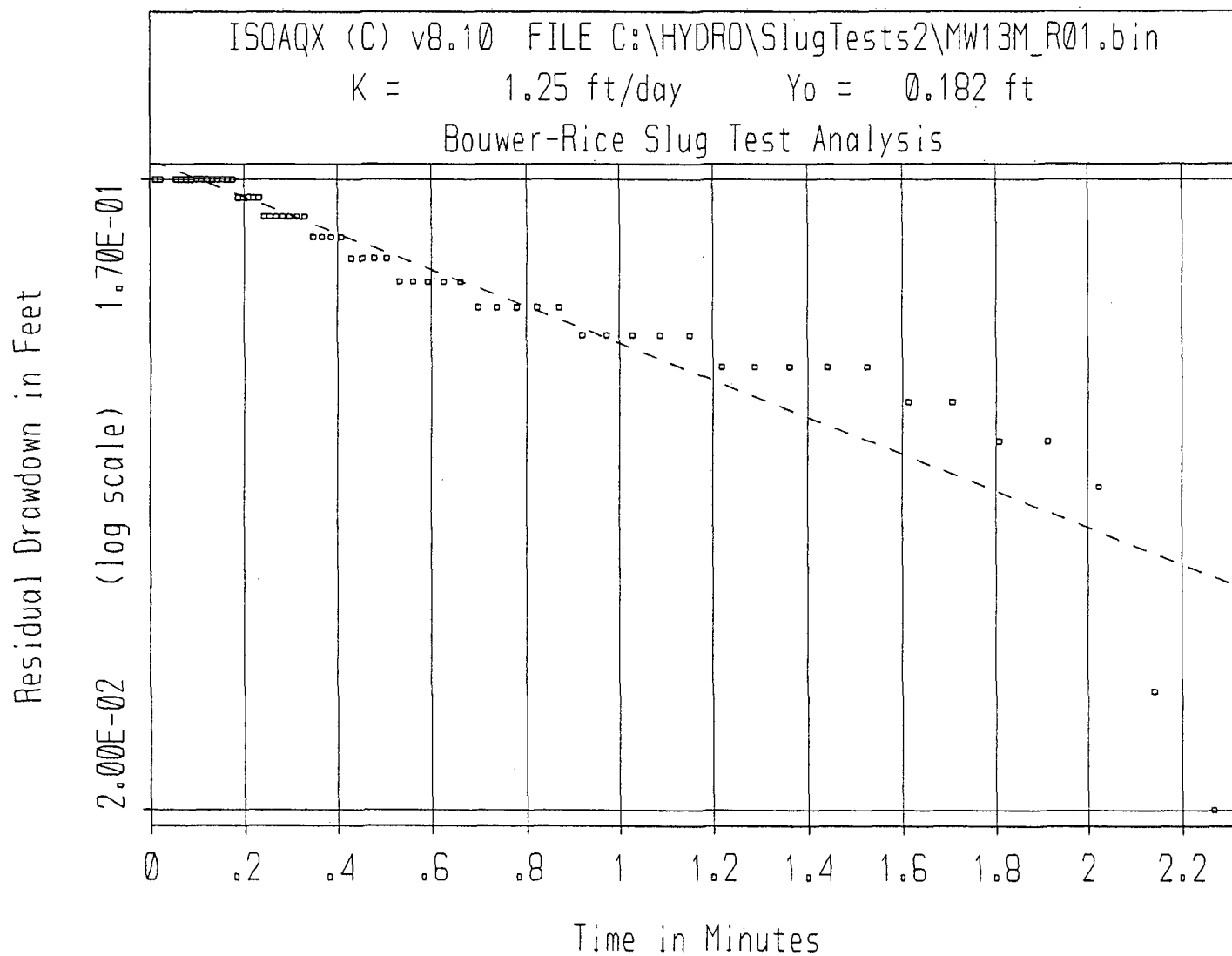


ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW13M_F01.bin

K = 7.00 ft/day Yo = 0.165 ft

Bouwer-Rice Slug Test Analysis

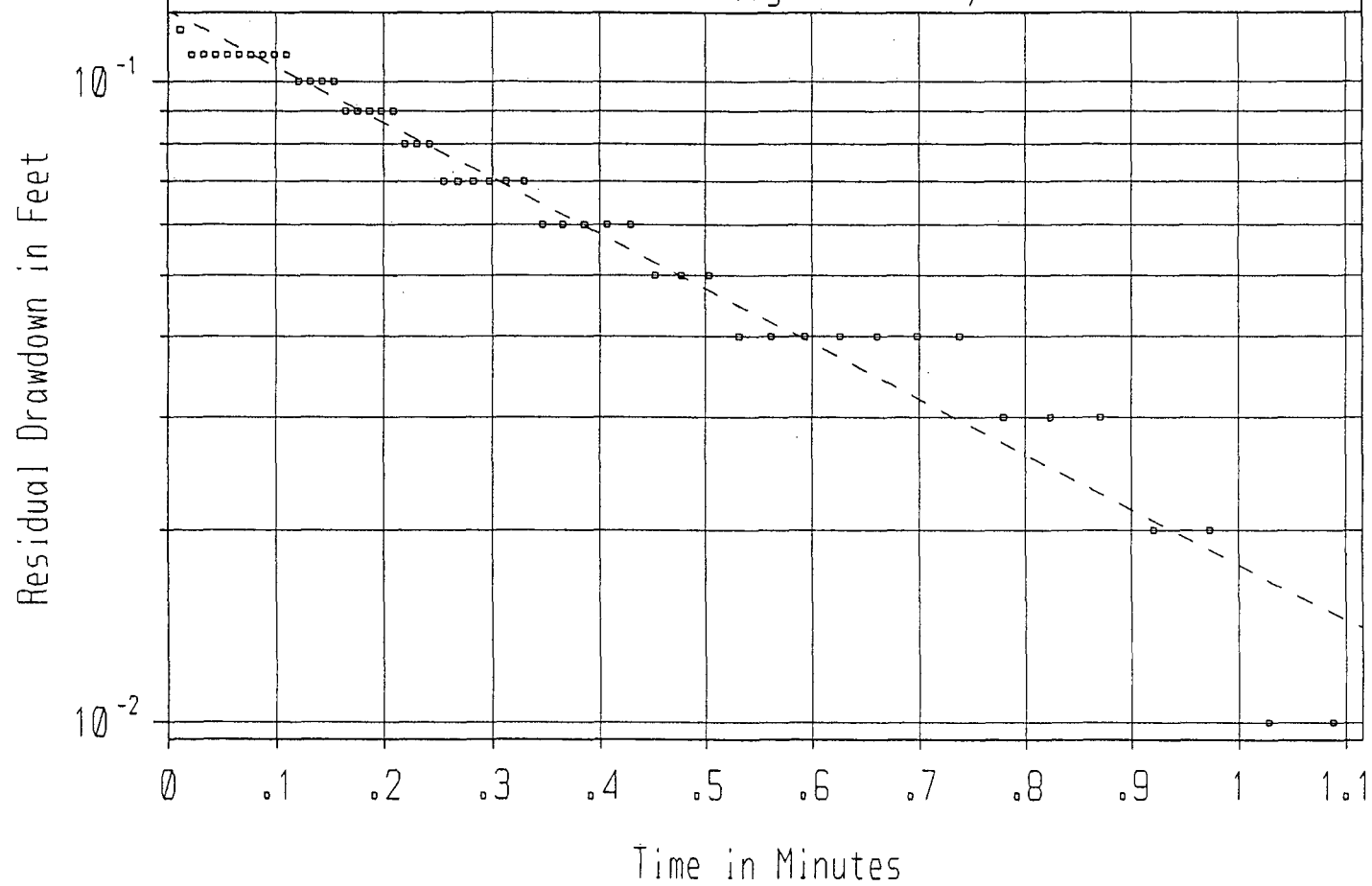


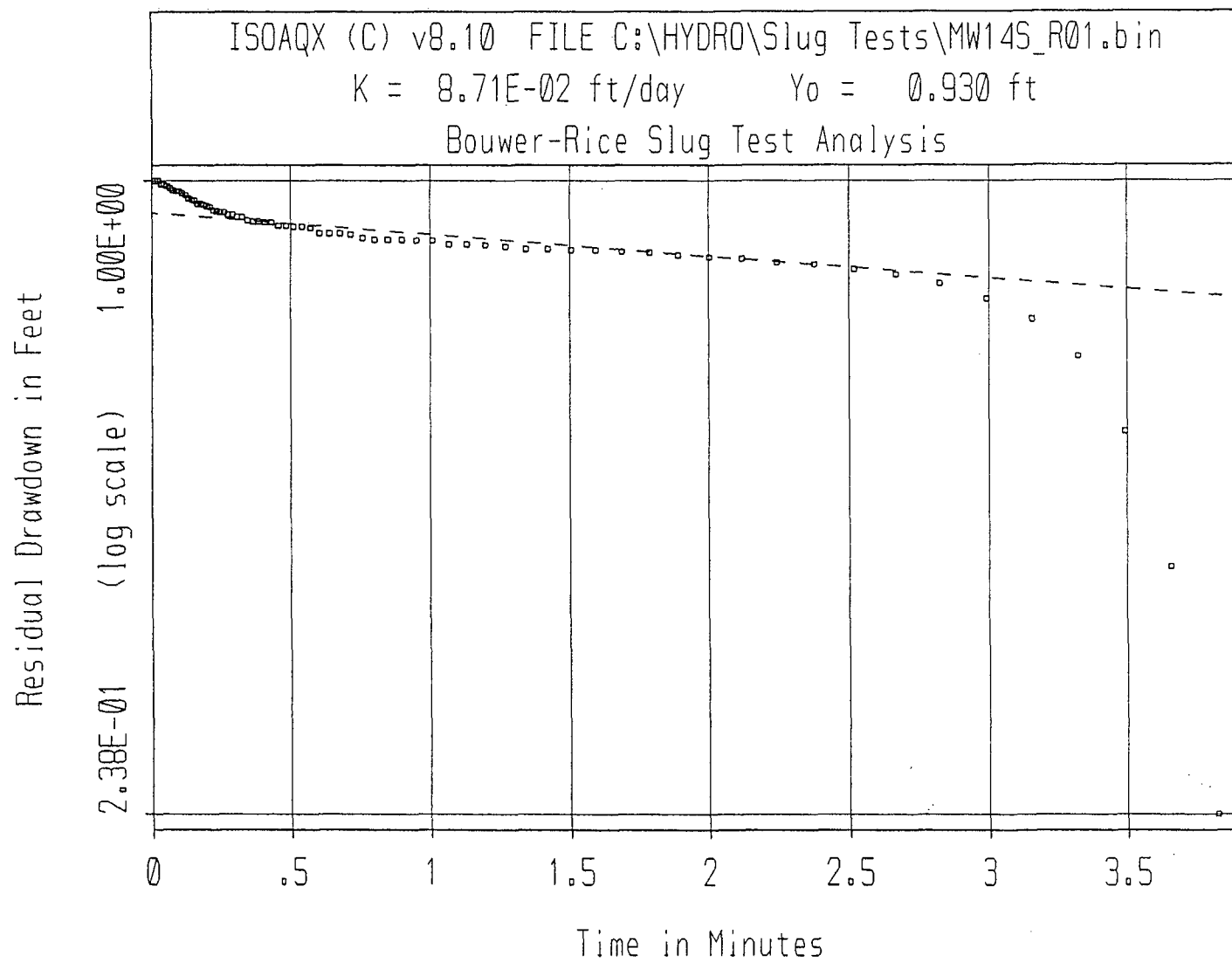


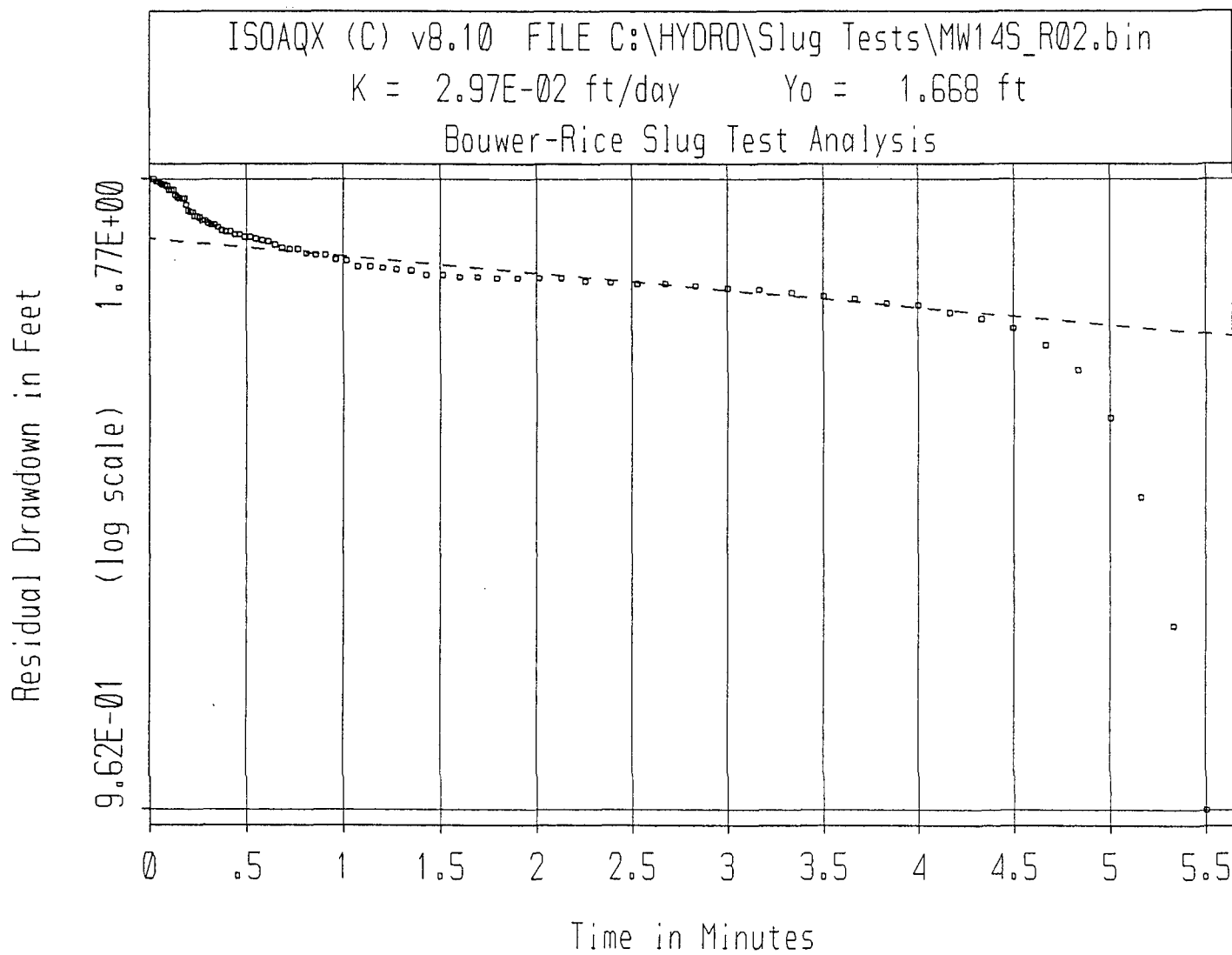
ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW13M_R02.bin

K = 3.98 ft/day Yo = 0.129 ft

Bouwer-Rice Slug Test Analysis



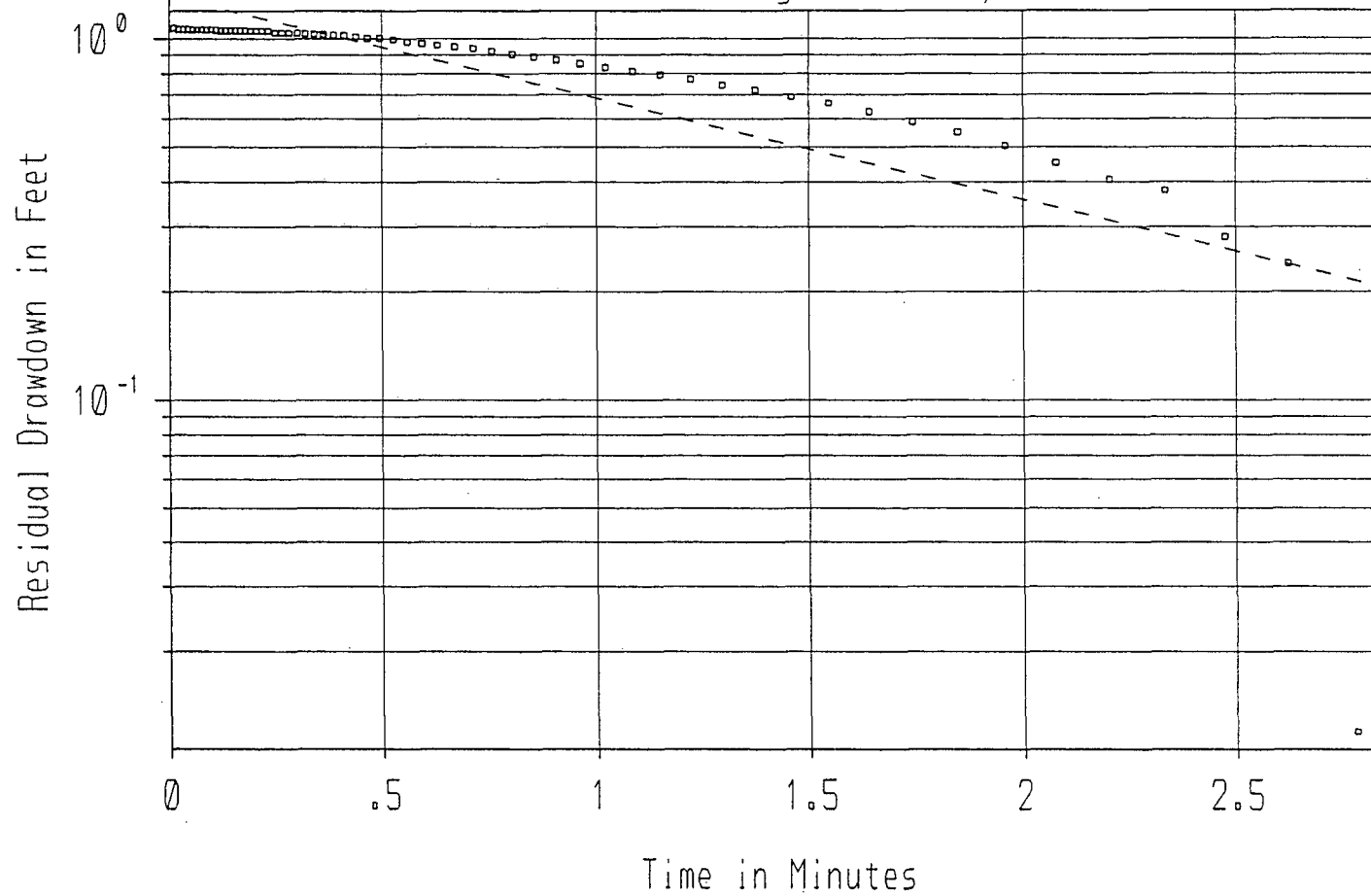




ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW14R_F01.bin

K = 1.56 ft/day Yo = 1.313 ft

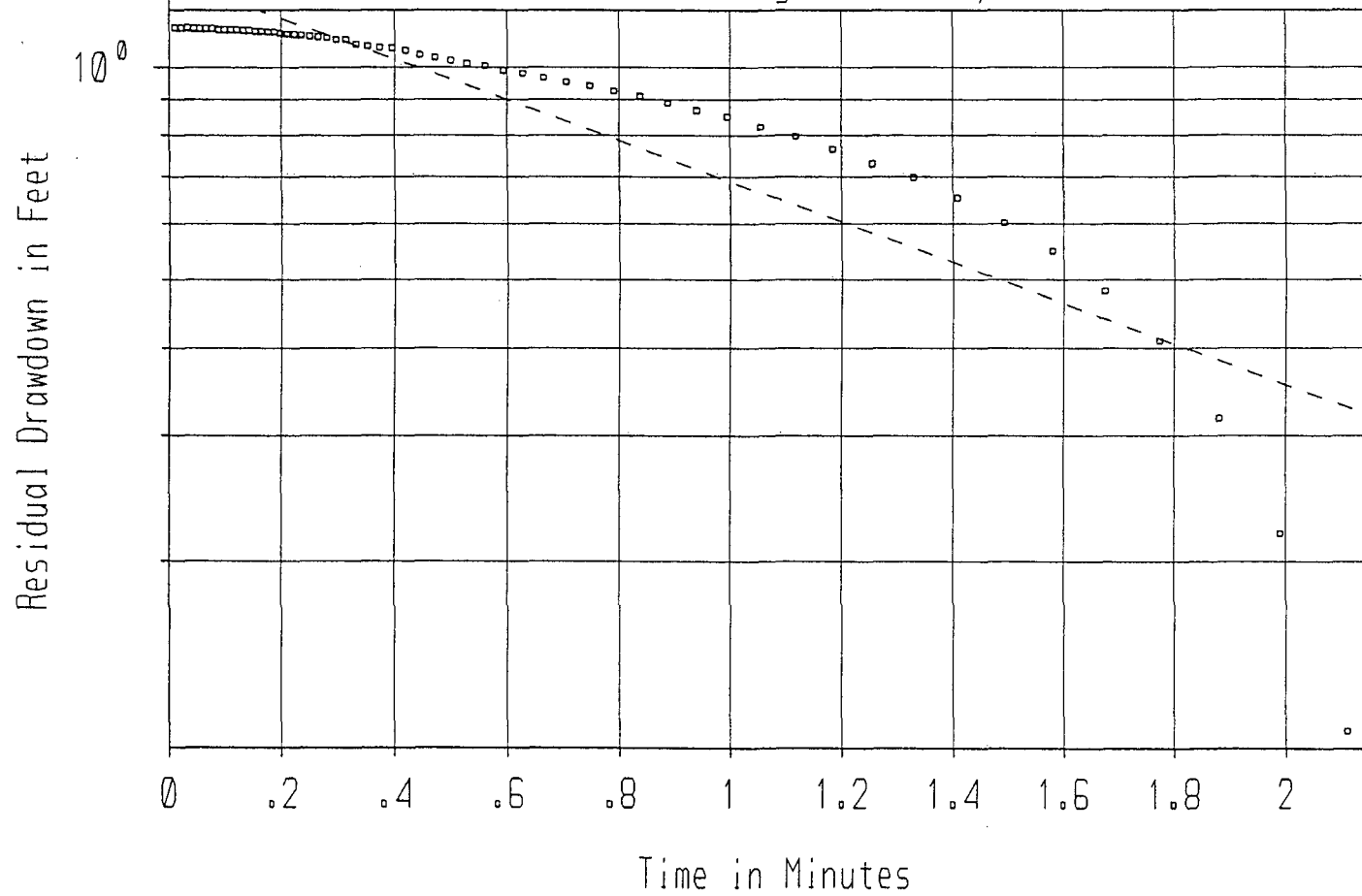
Bouwer-Rice Slug Test Analysis

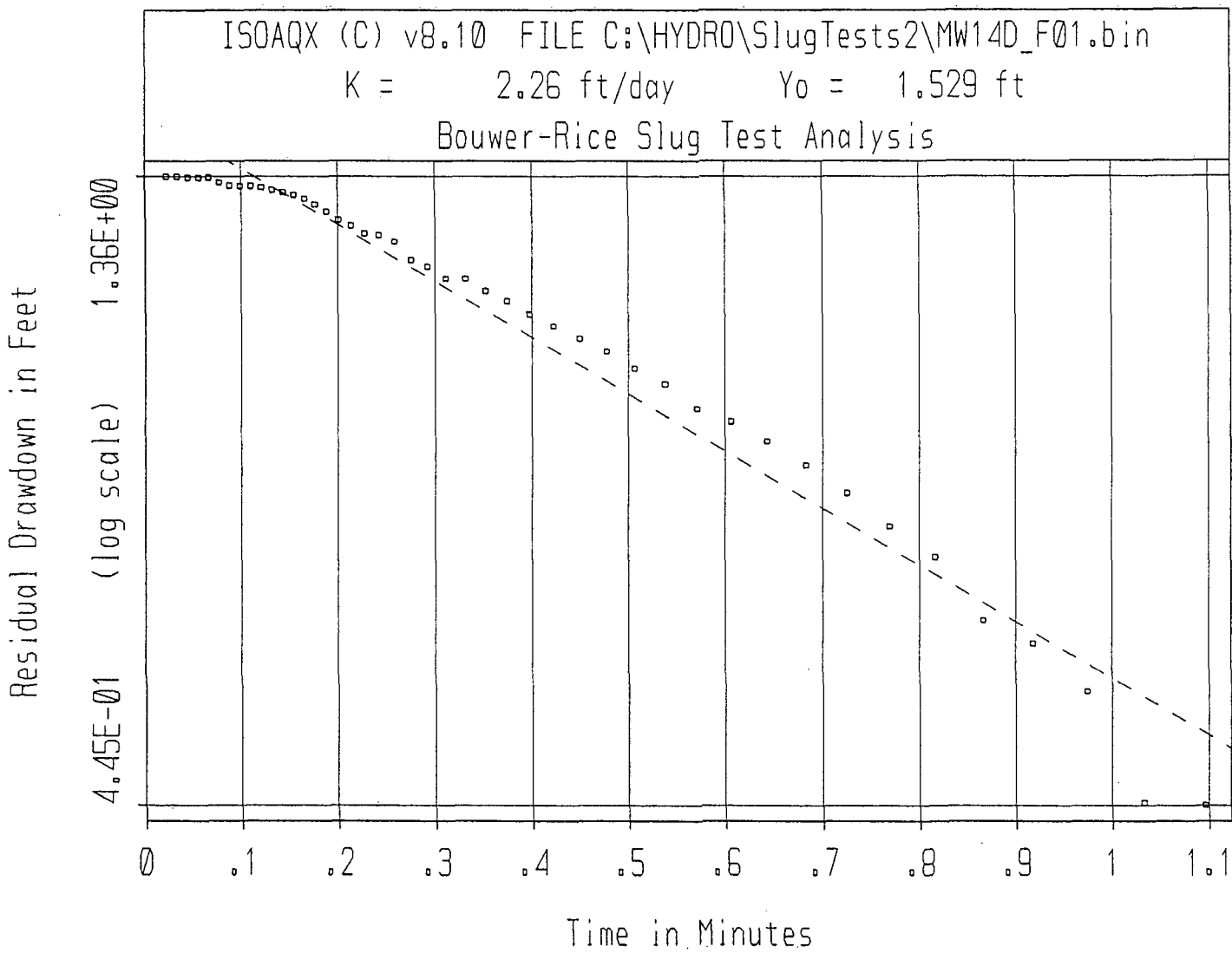


ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW14R_R01.bin

K = 1.59 ft/day Yo = 1.339 ft

Bouwer-Rice Slug Test Analysis

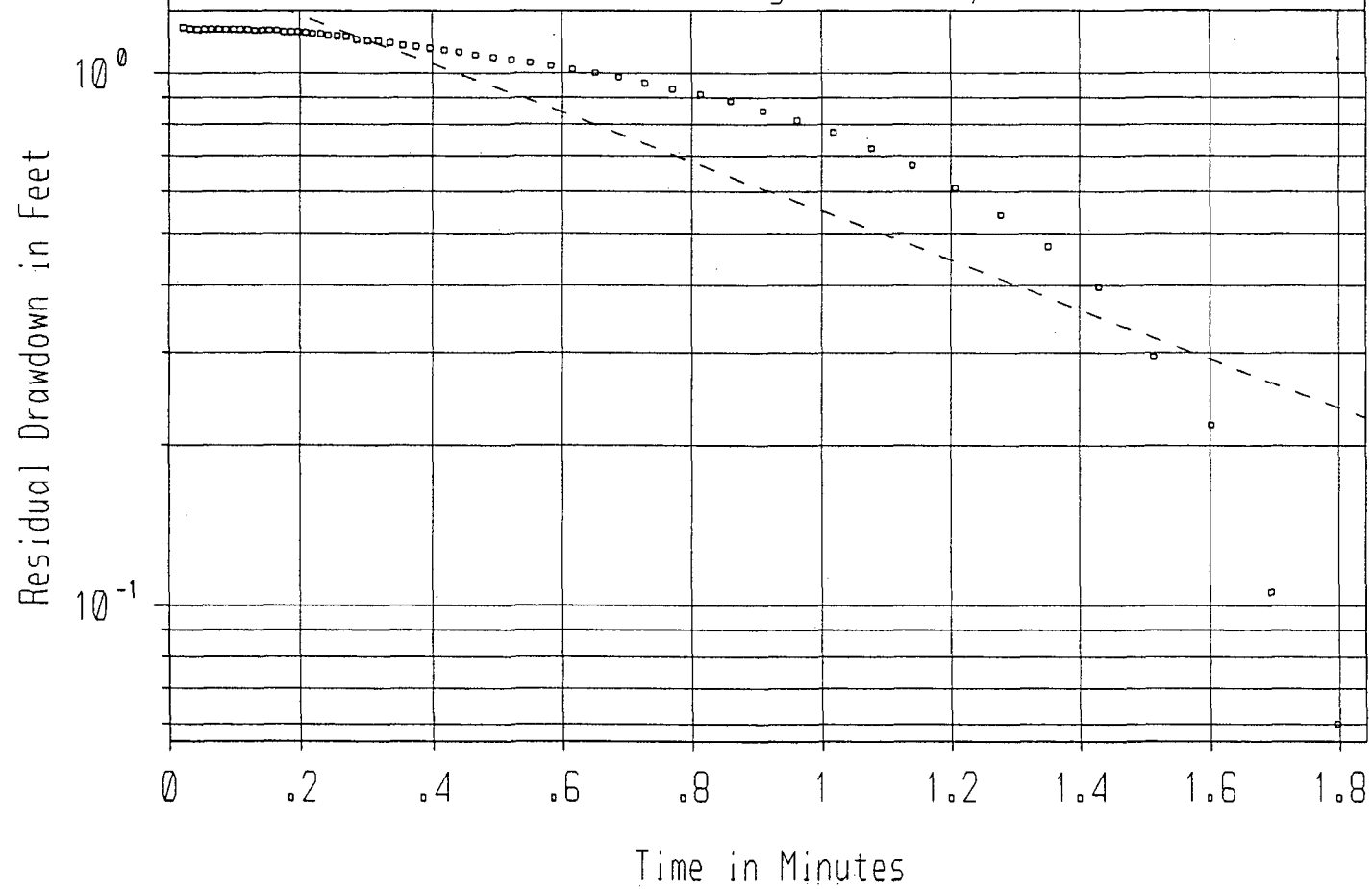




ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW14D_R01.bin

K = 2.37 ft/day Yo = 1.593 ft

Bouwer-Rice Slug Test Analysis

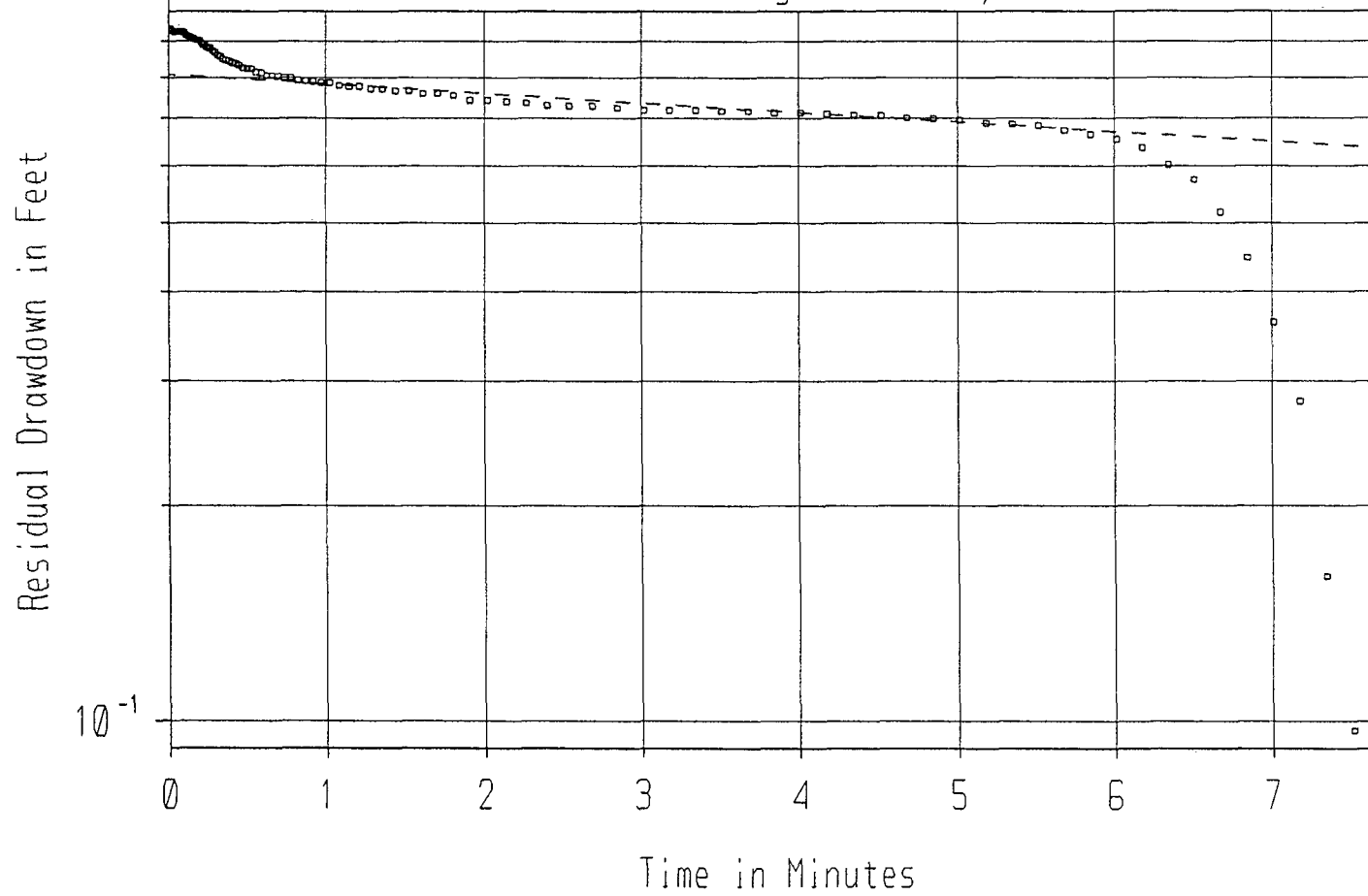


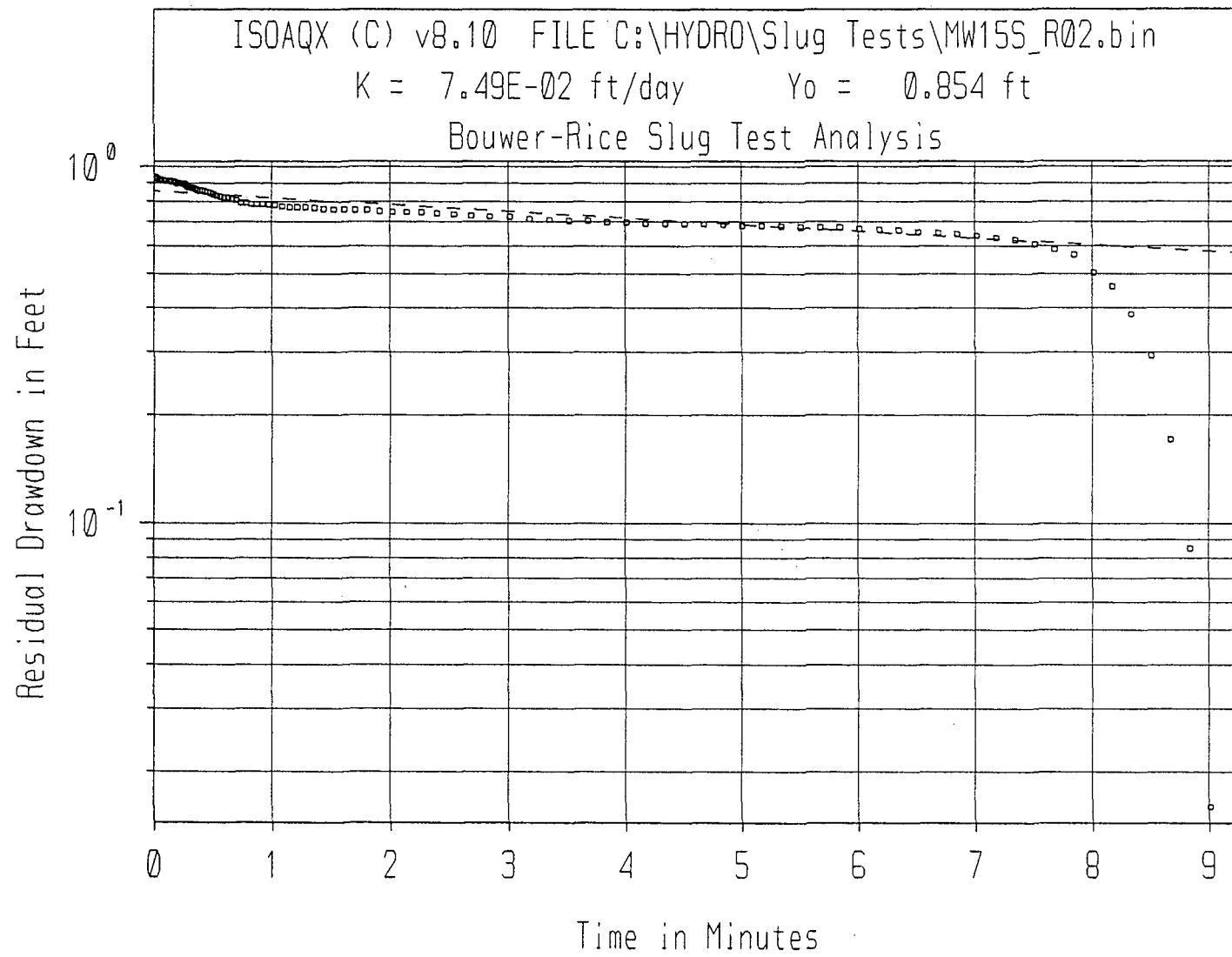
302358

ISOAQX (C) v8.10 FILE C:\HYDRO\Slug Tests\MW155_R01.bin

$K = 5.39E-02$ ft/day $Y_0 = 0.807$ ft

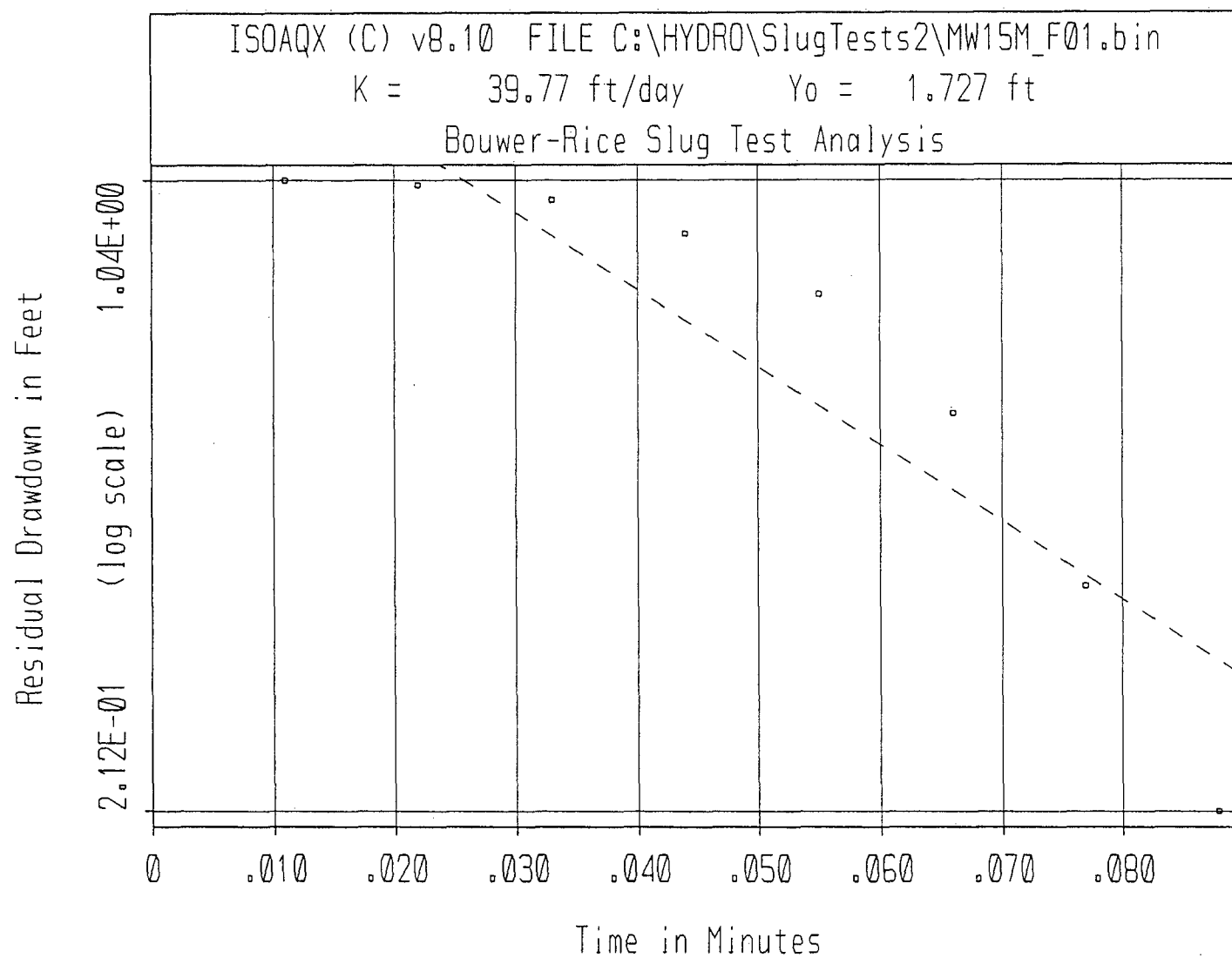
Bouwer-Rice Slug Test Analysis

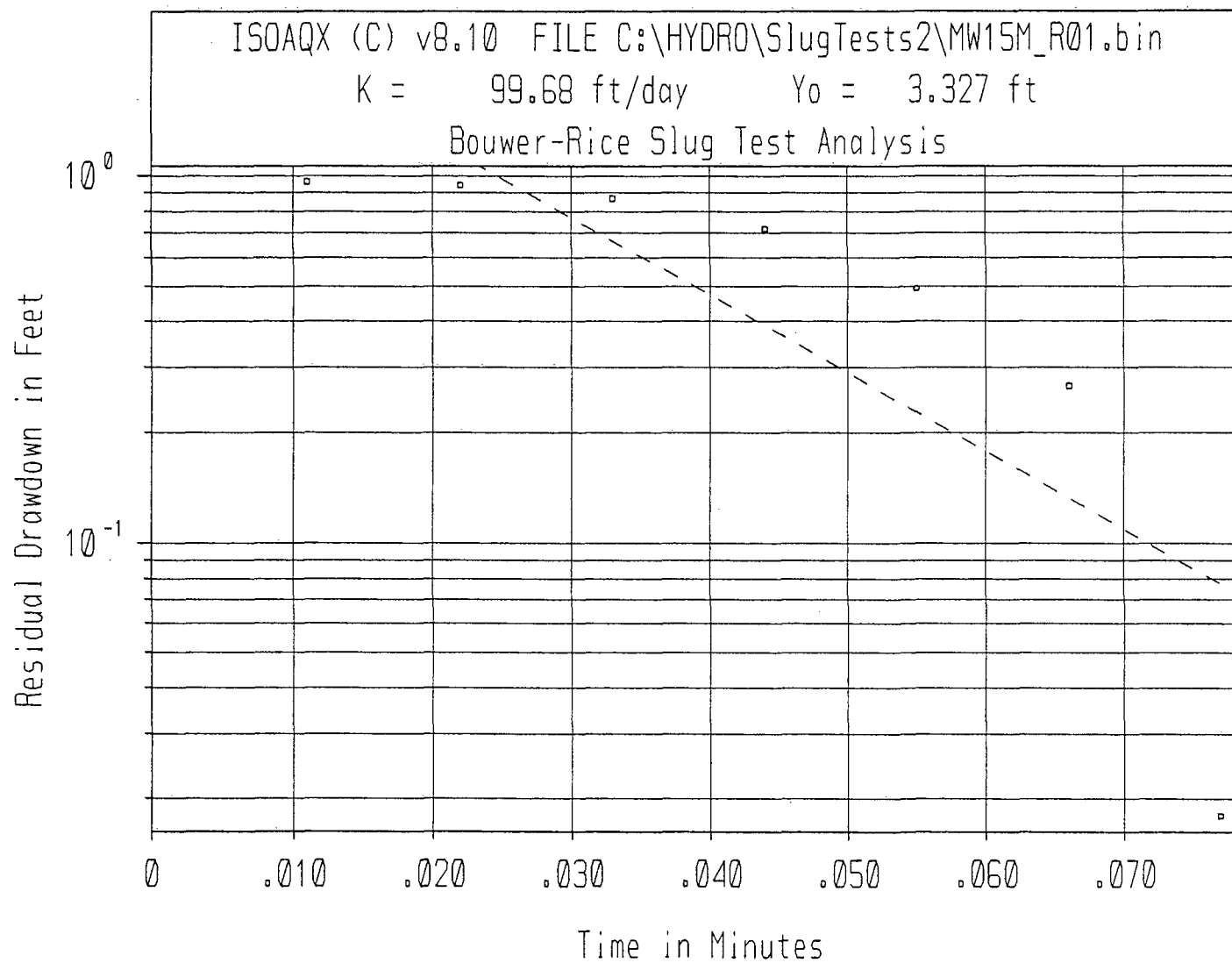




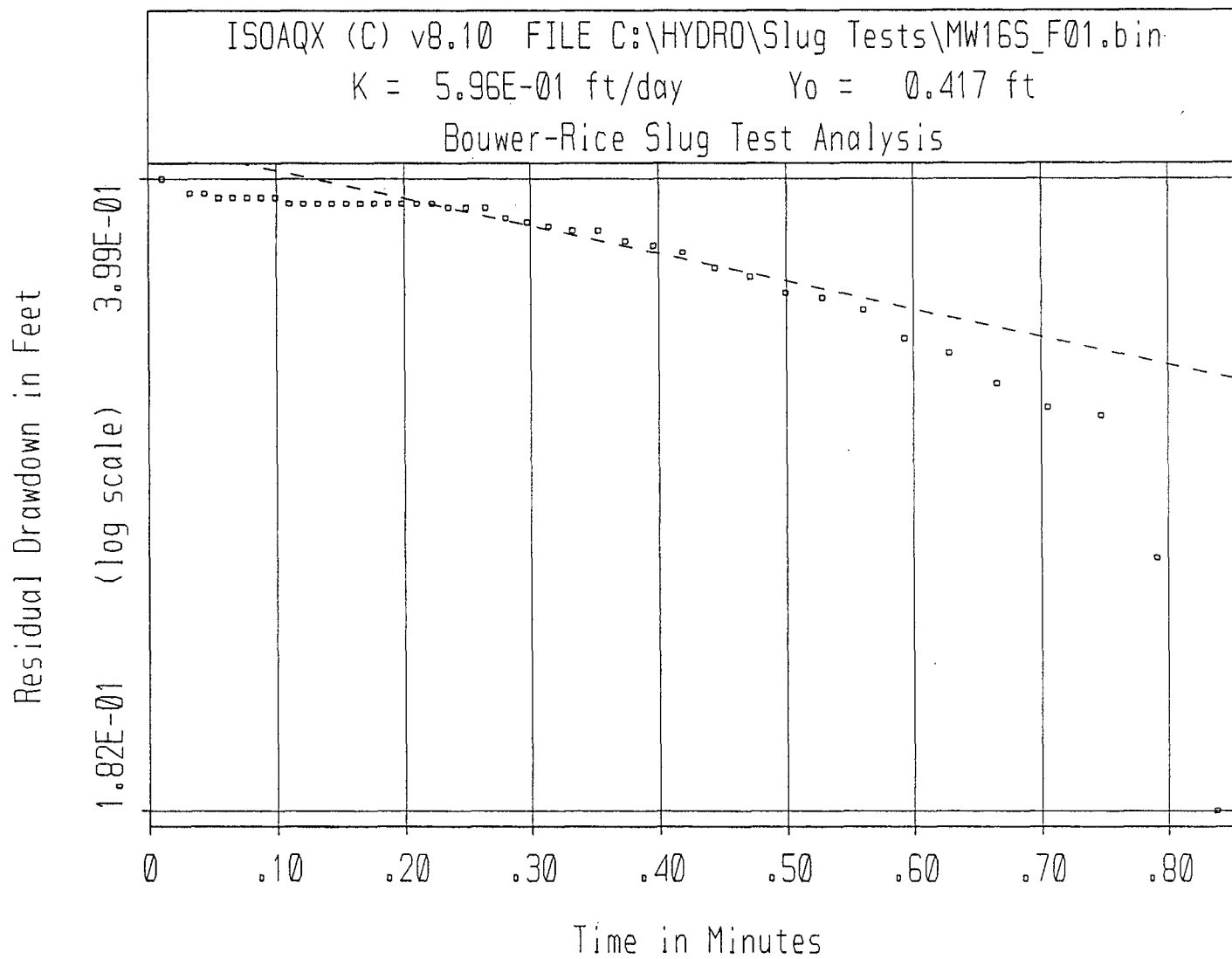
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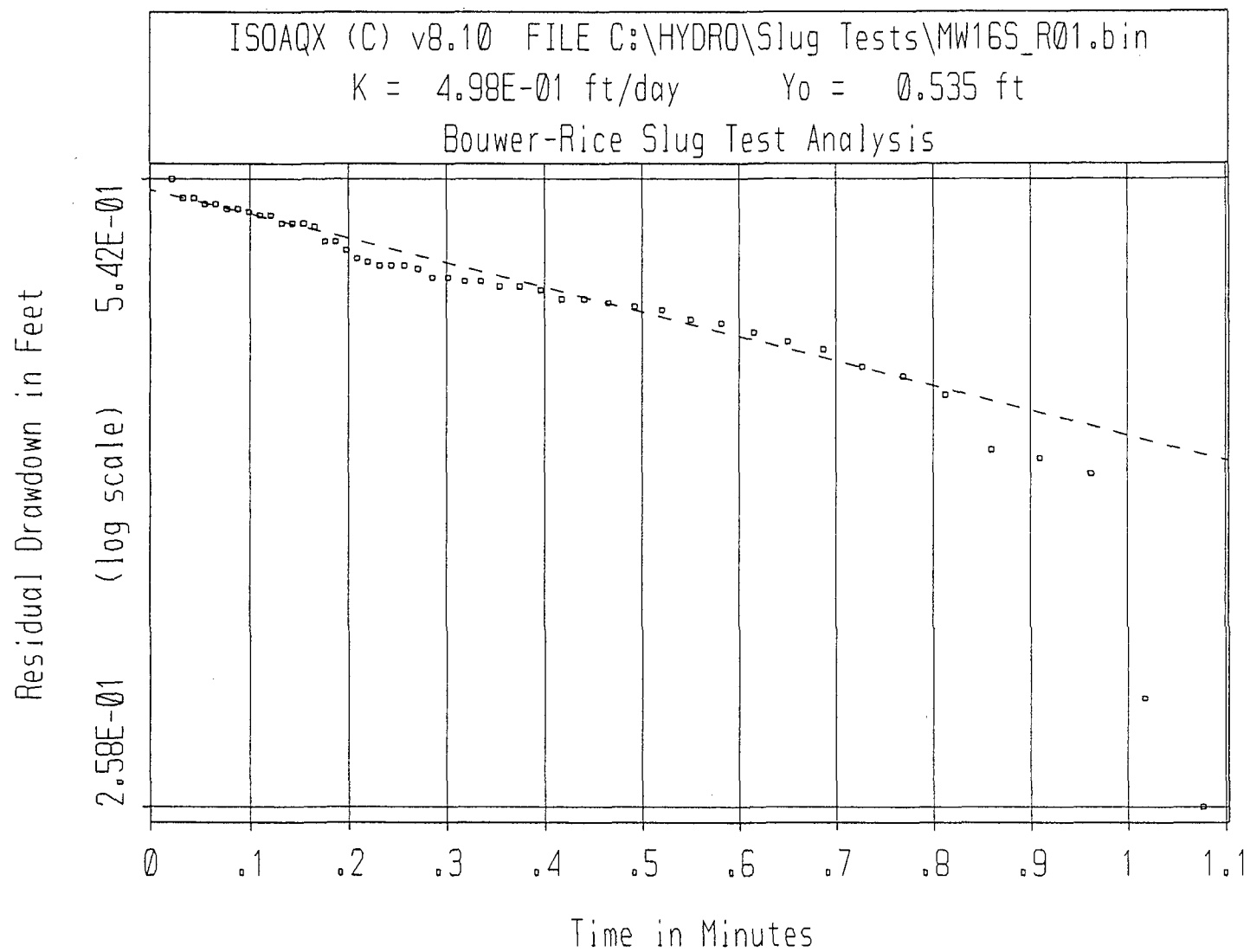
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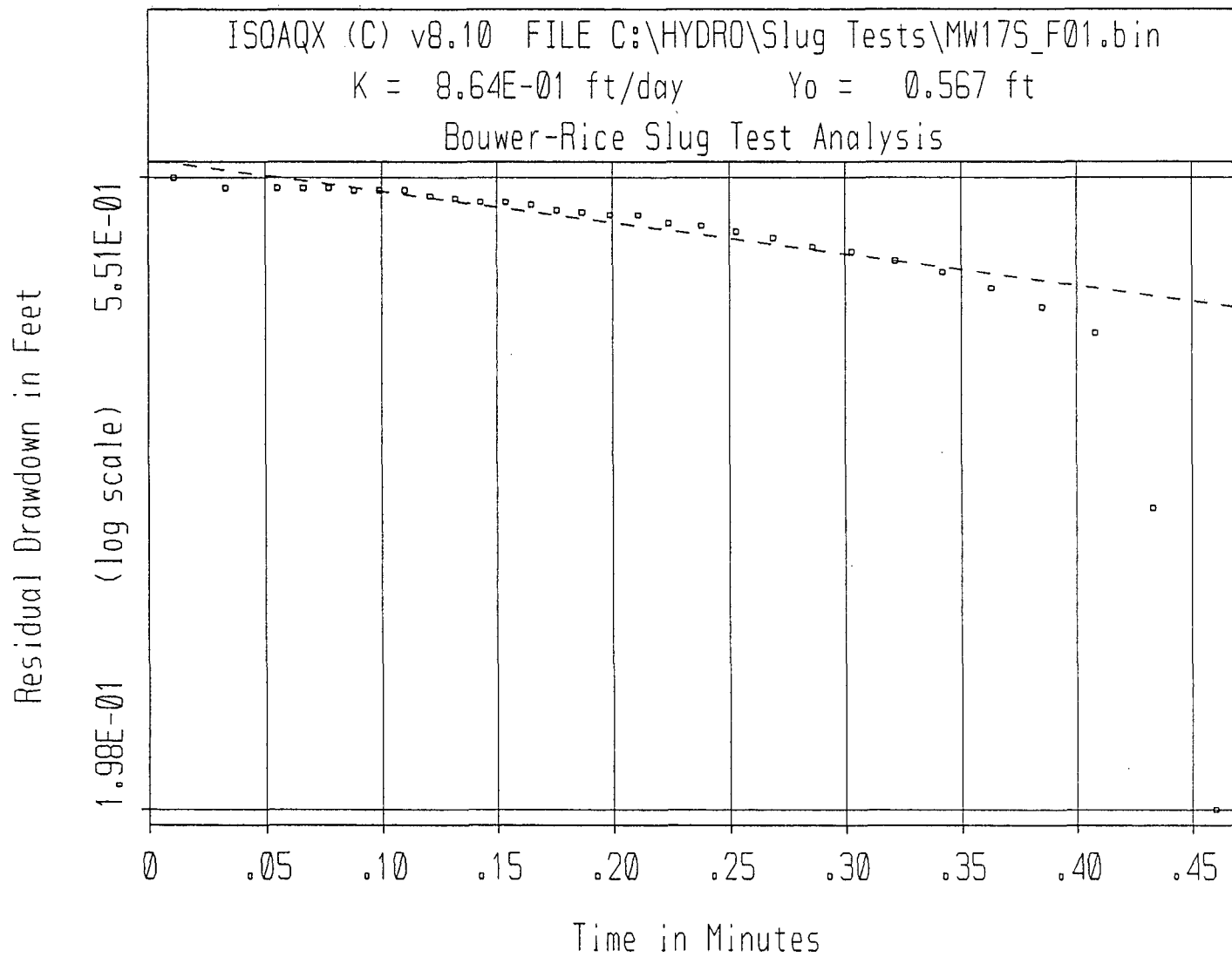


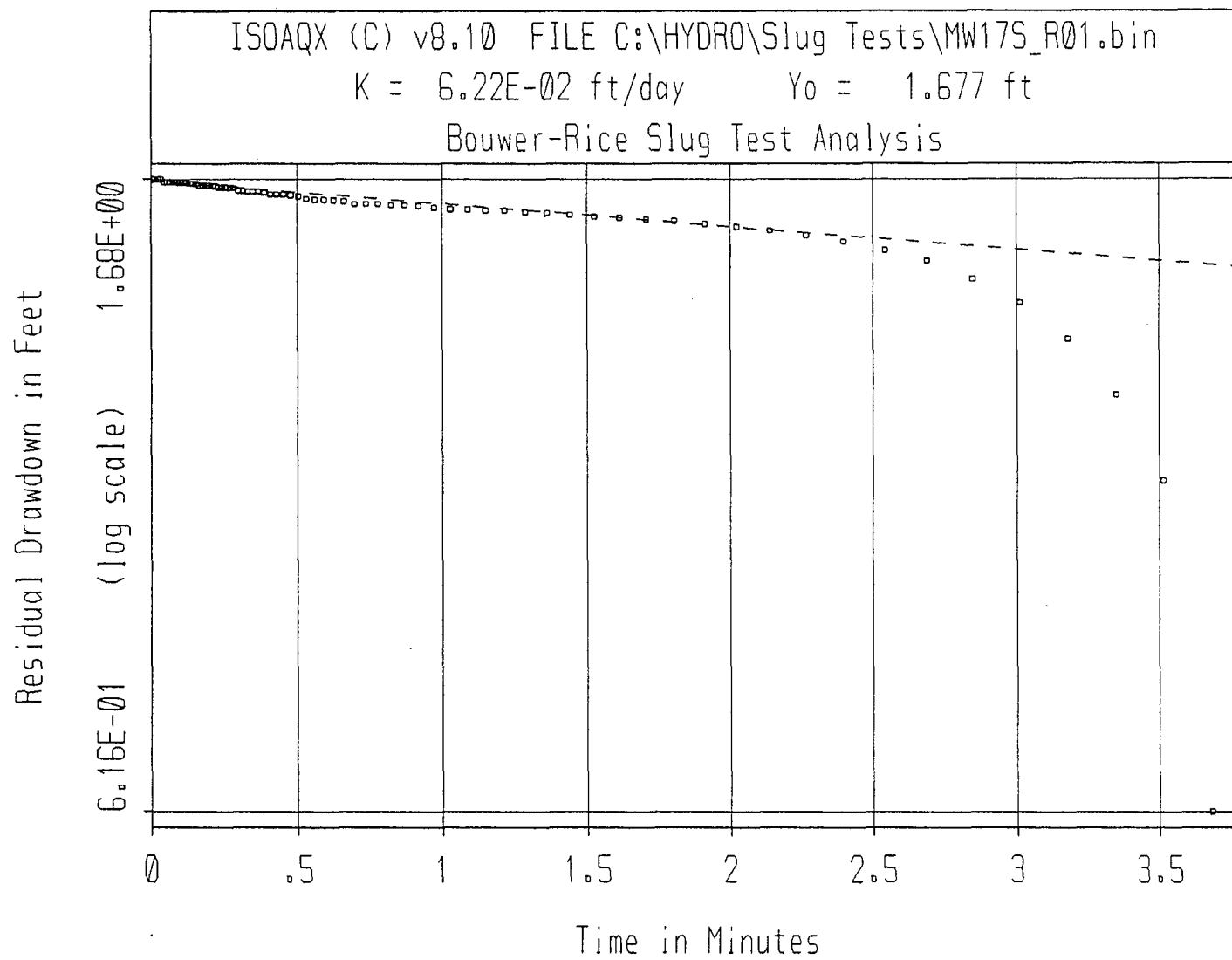


302362





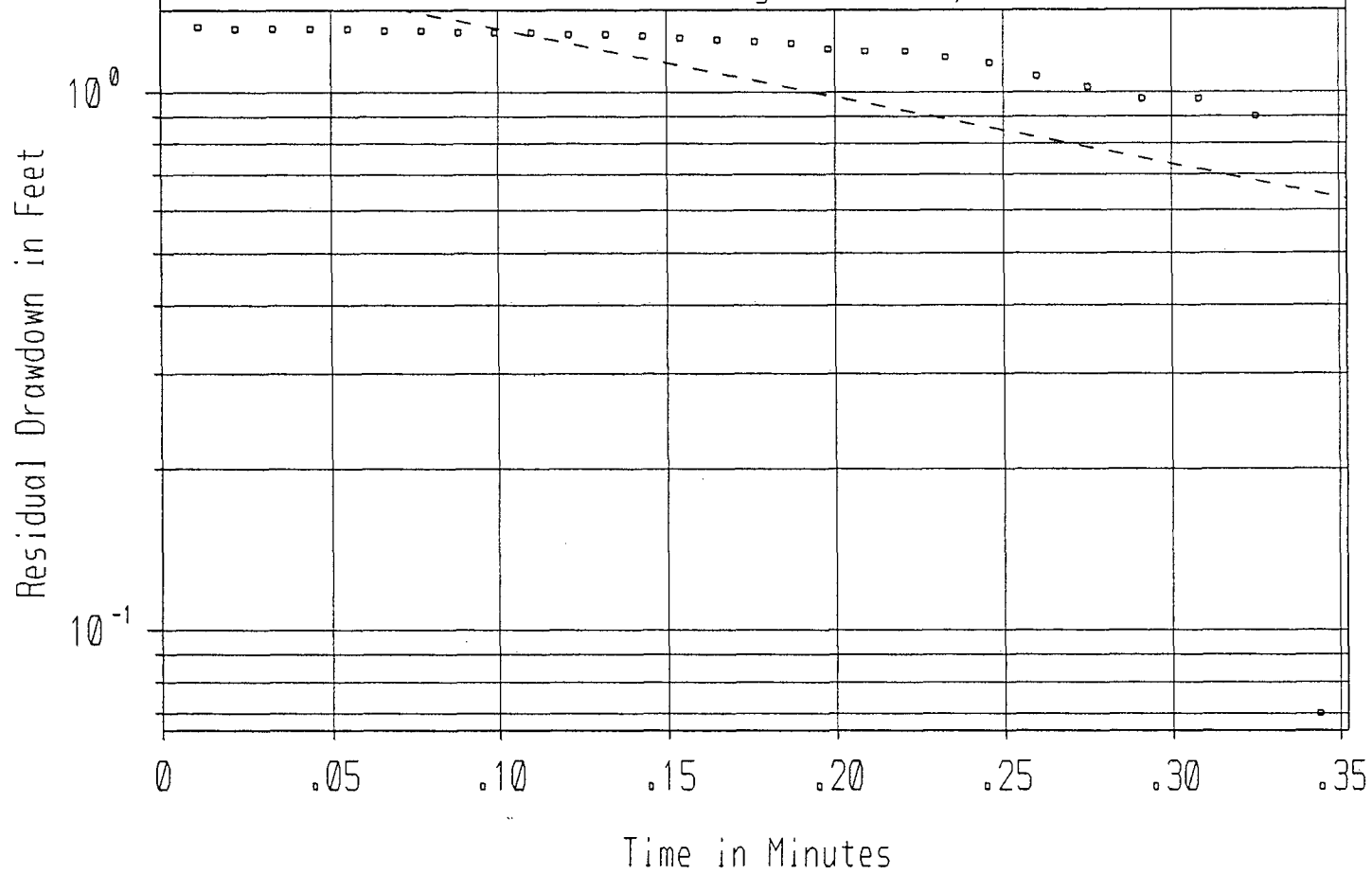


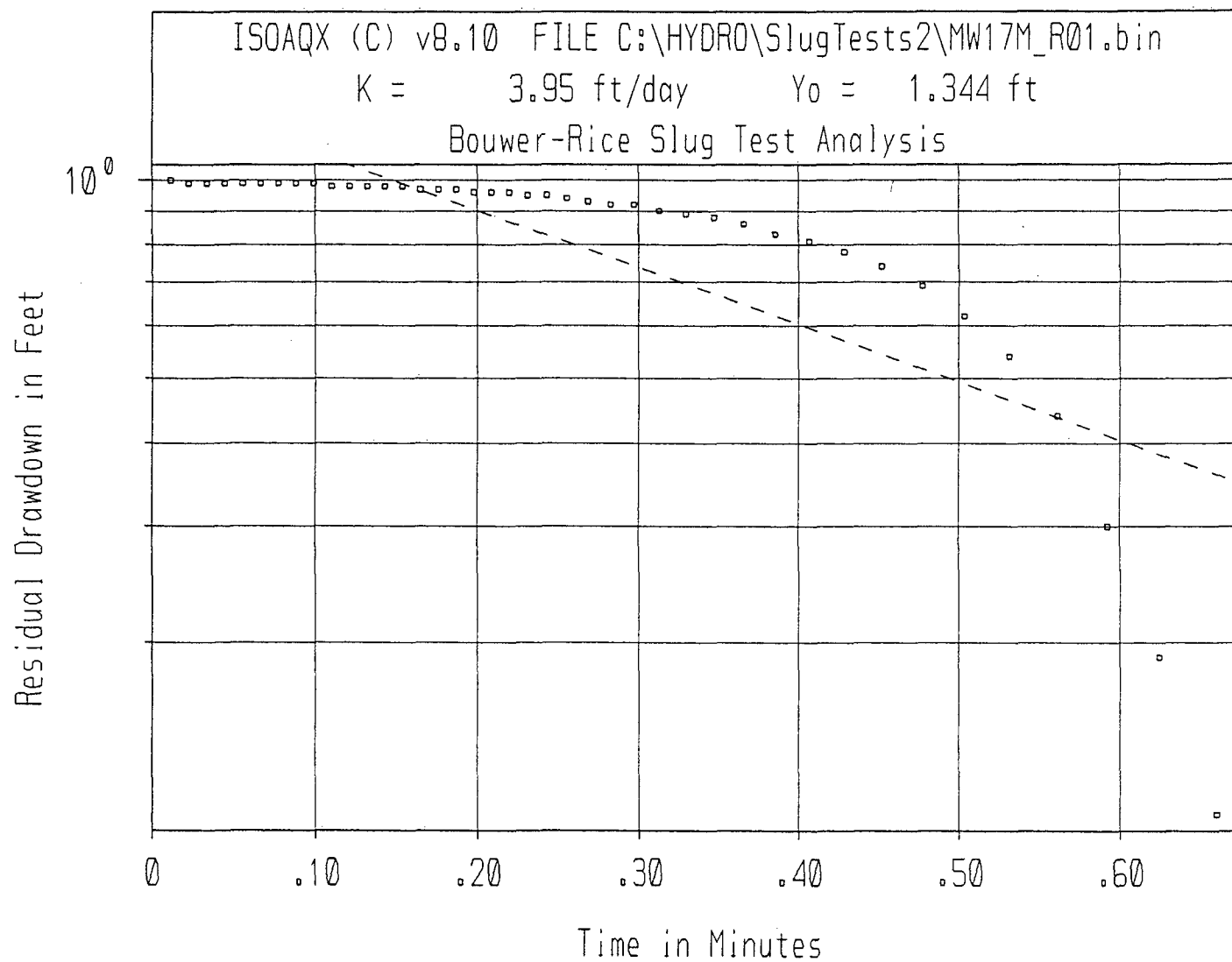


ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW17M_F01.bin

K = 5.76 ft/day Yo = 1.752 ft

Bouwer-Rice Slug Test Analysis



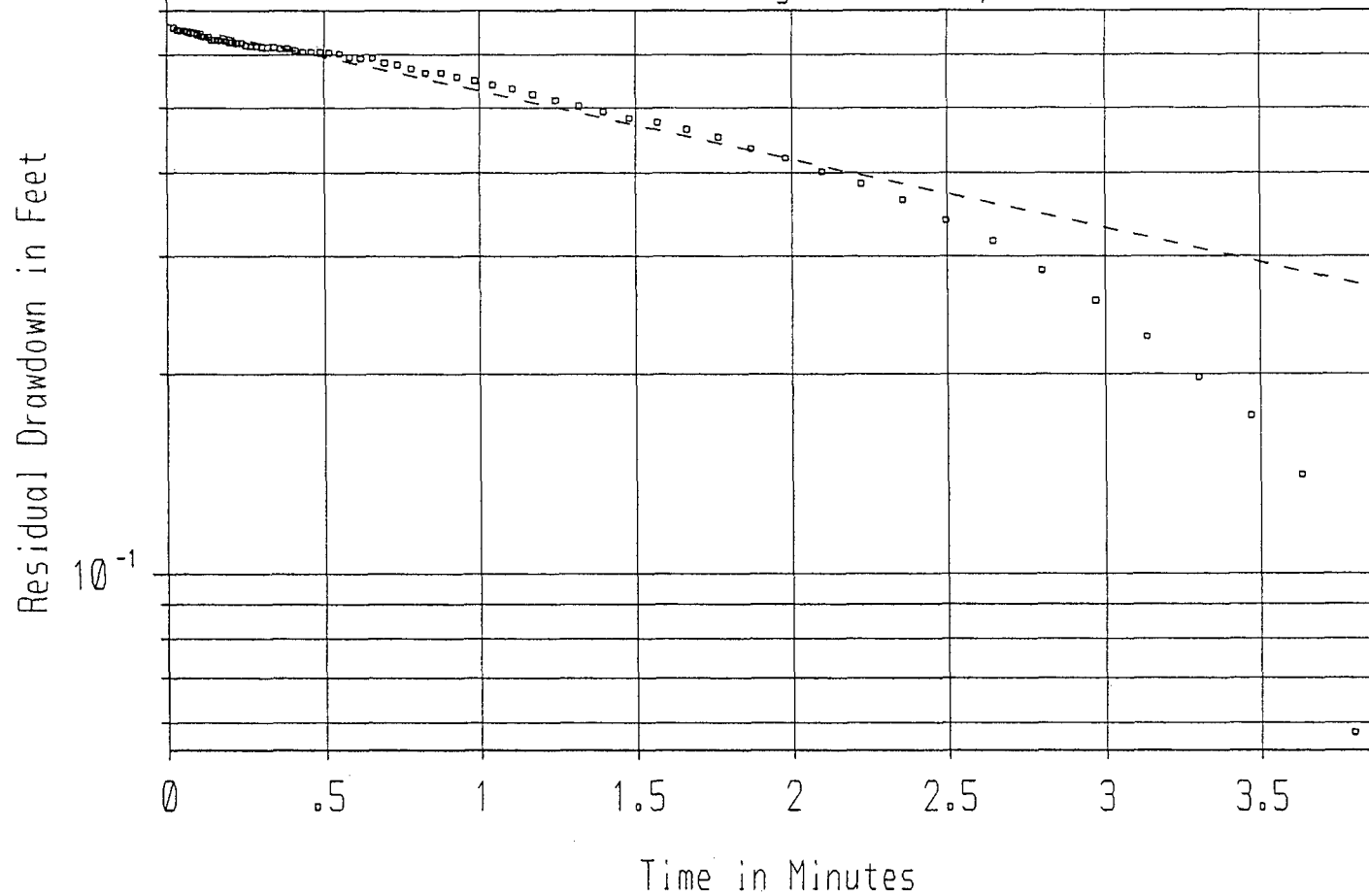


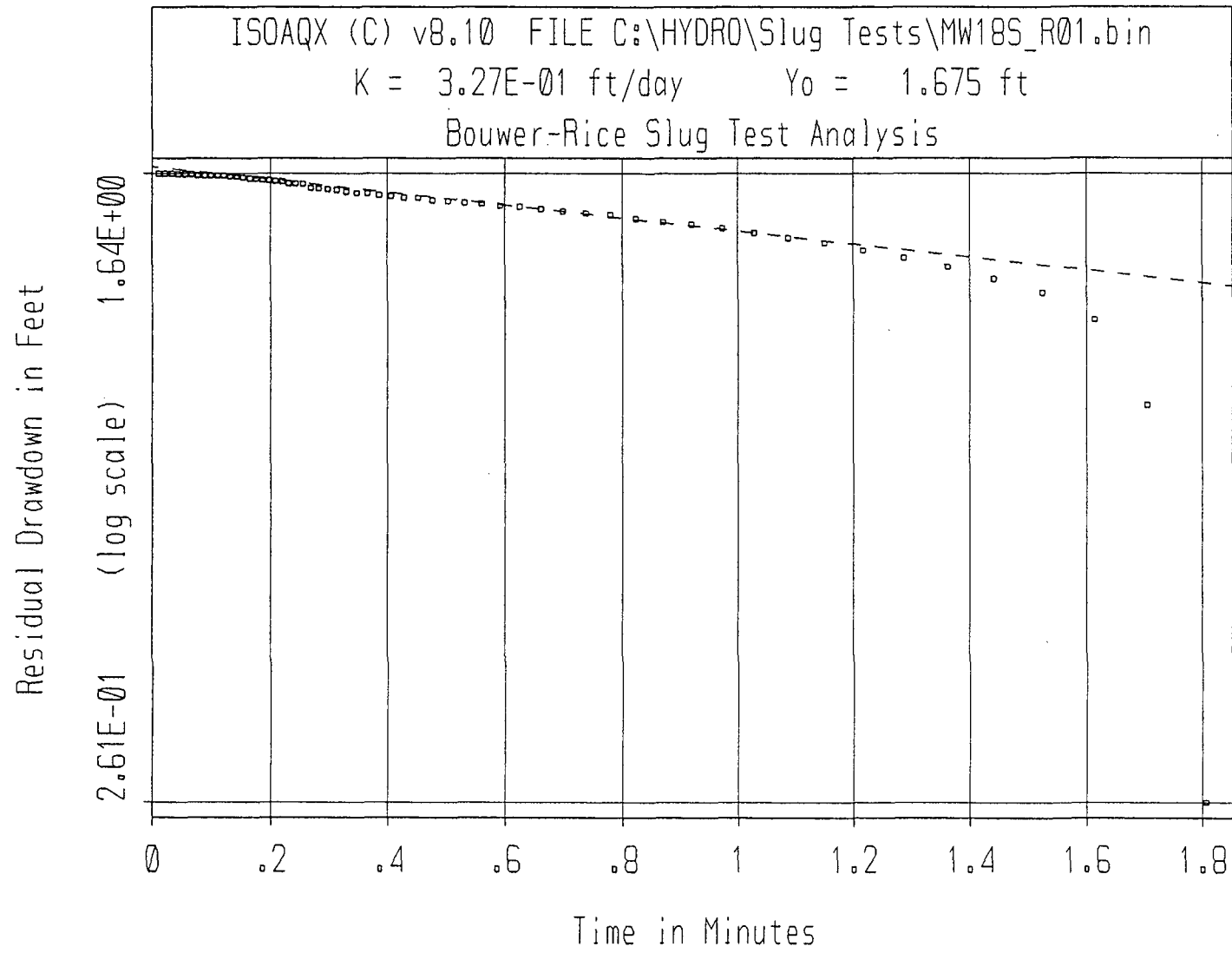
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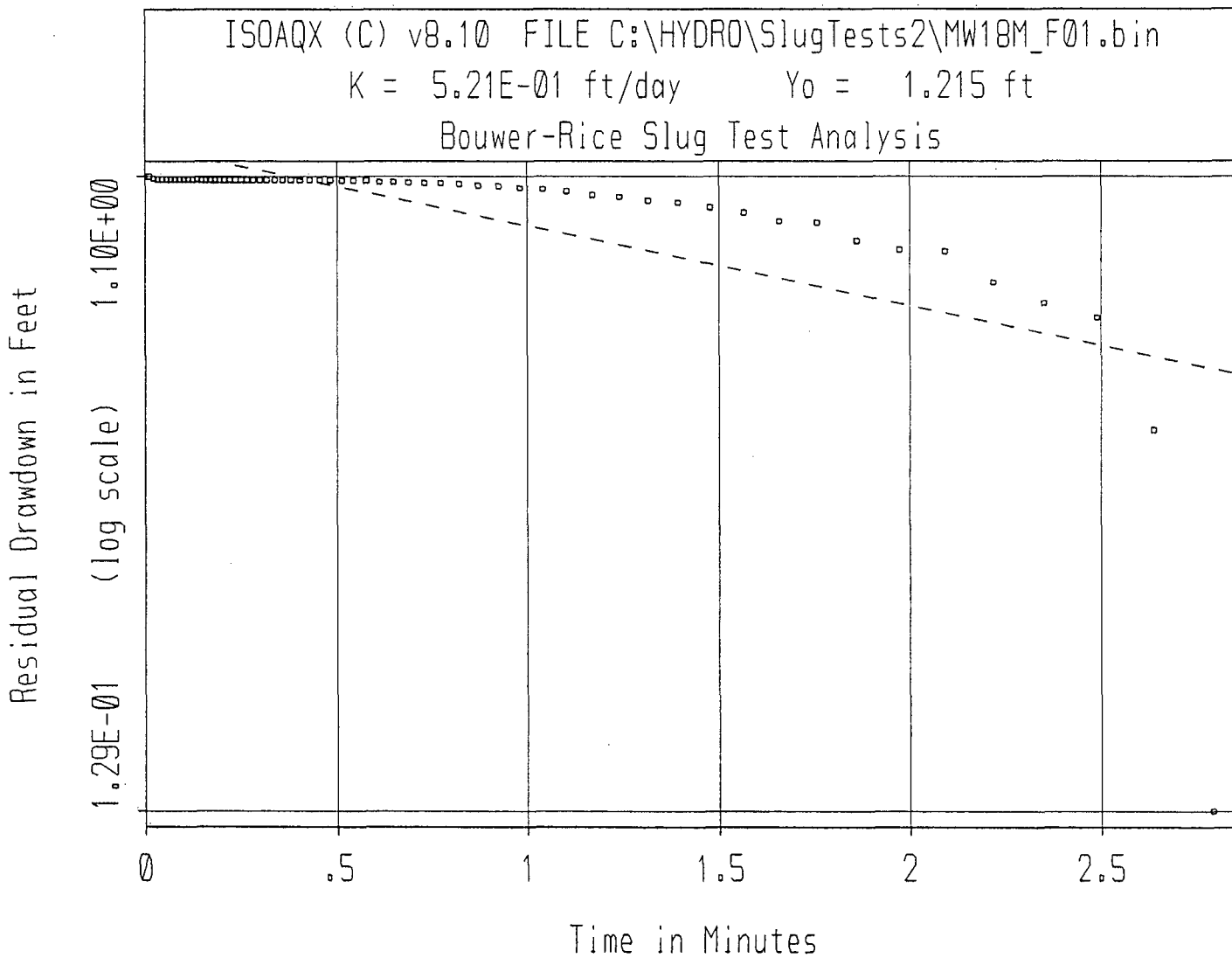
ISOAQX (C) v8.10 FILE C:\HYDRO\Slug Tests\MW18S_F01.bin

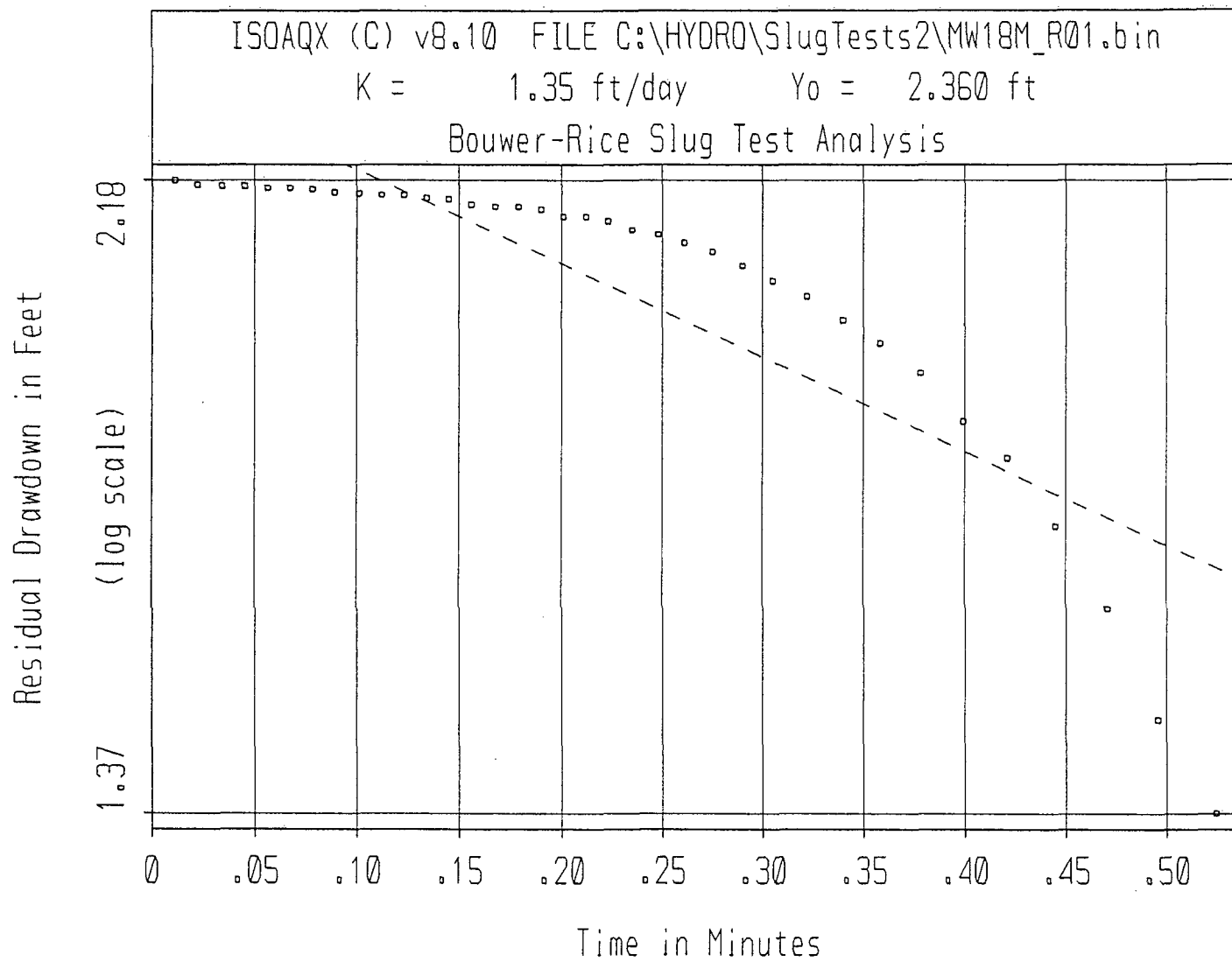
K = 4.10E-01 ft/day Y₀ = 0.669 ft

Bouwer-Rice Slug Test Analysis





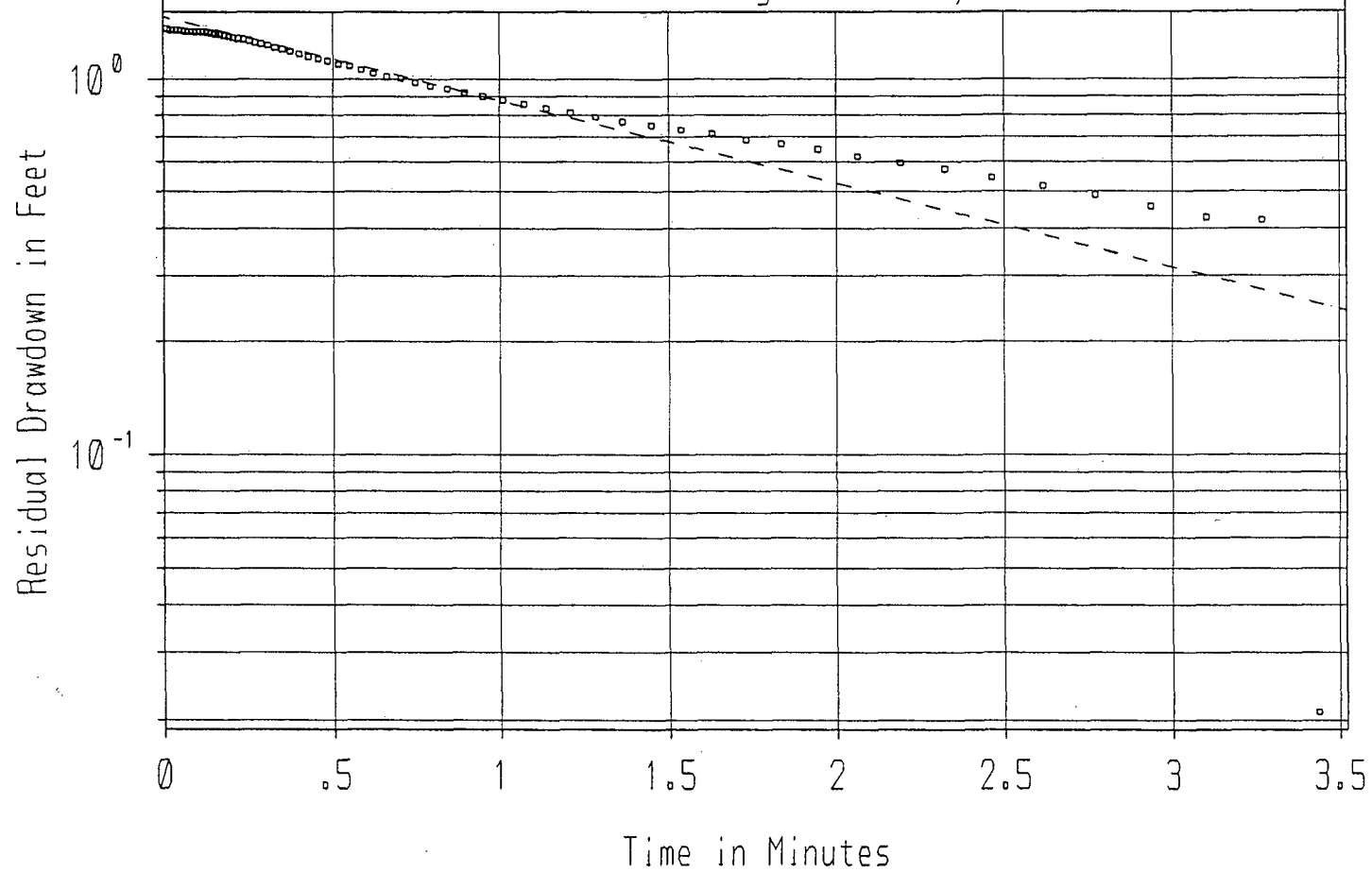




ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW18D_F01.bin

K = 1.12 ft/day Yo = 1.458 ft

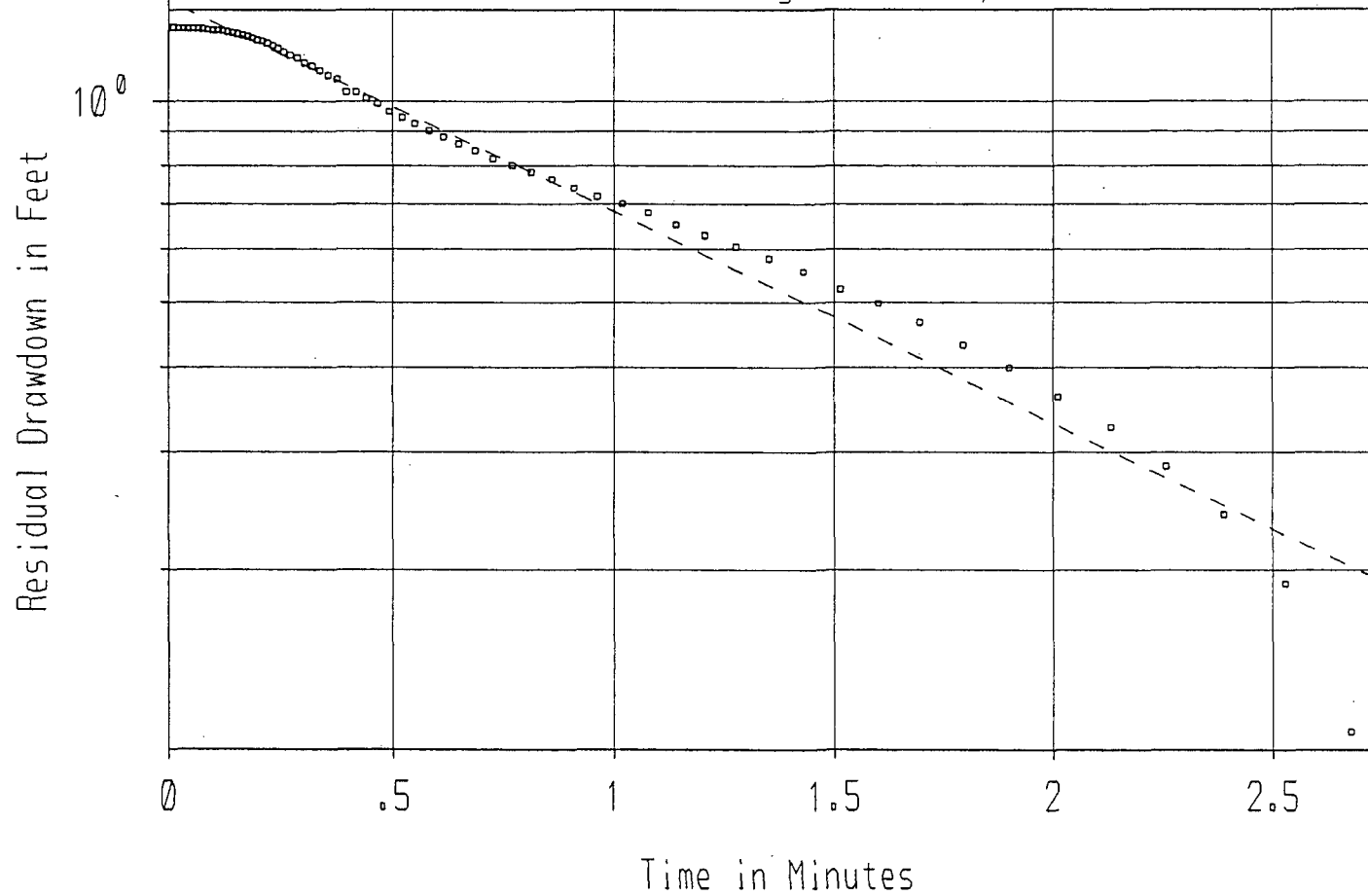
Bouwer-Rice Slug Test Analysis



ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW18D_R01.bin

K = 1.59 ft/day Yo = 1.408 ft

Bouwer-Rice Slug Test Analysis

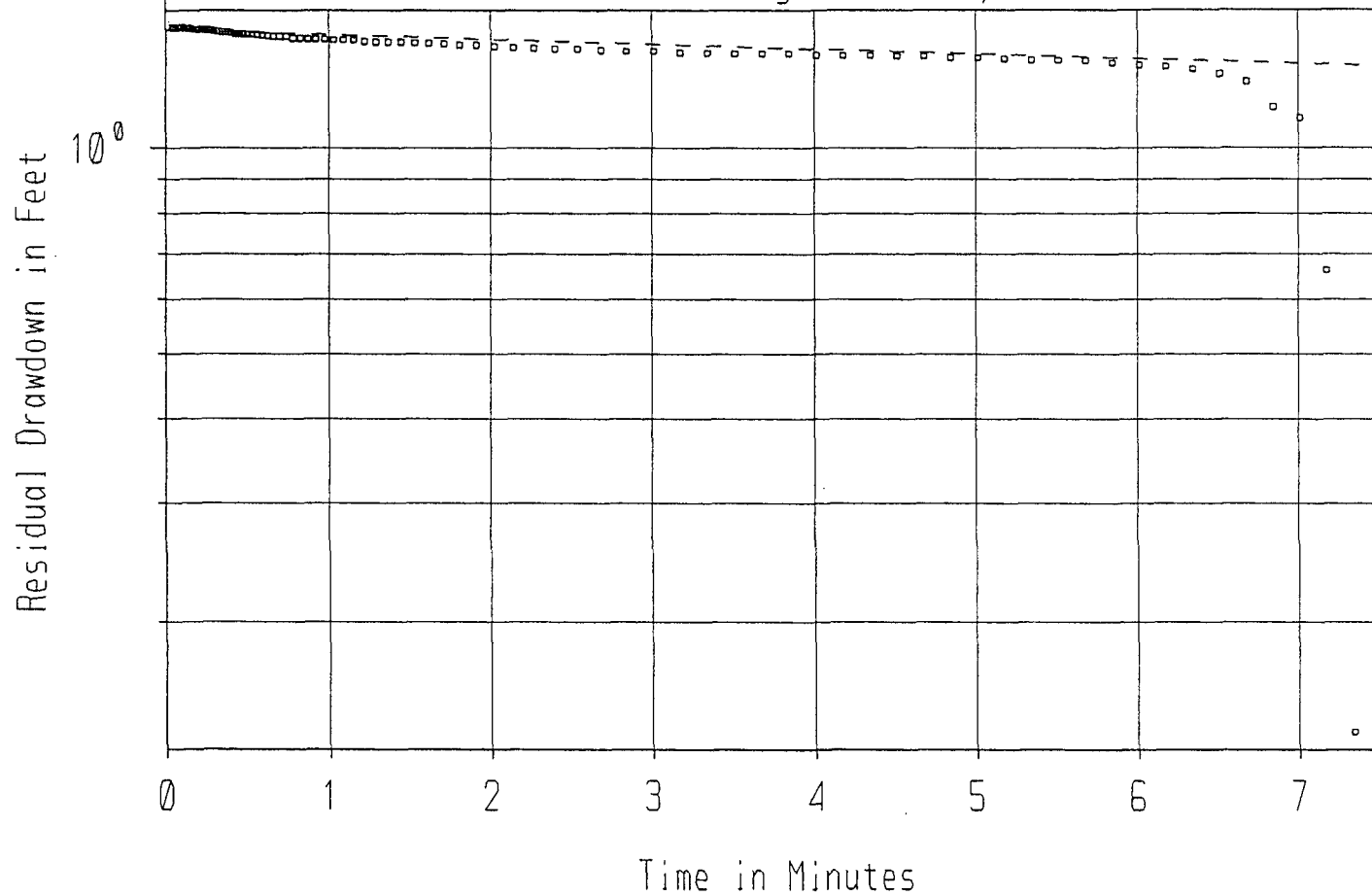


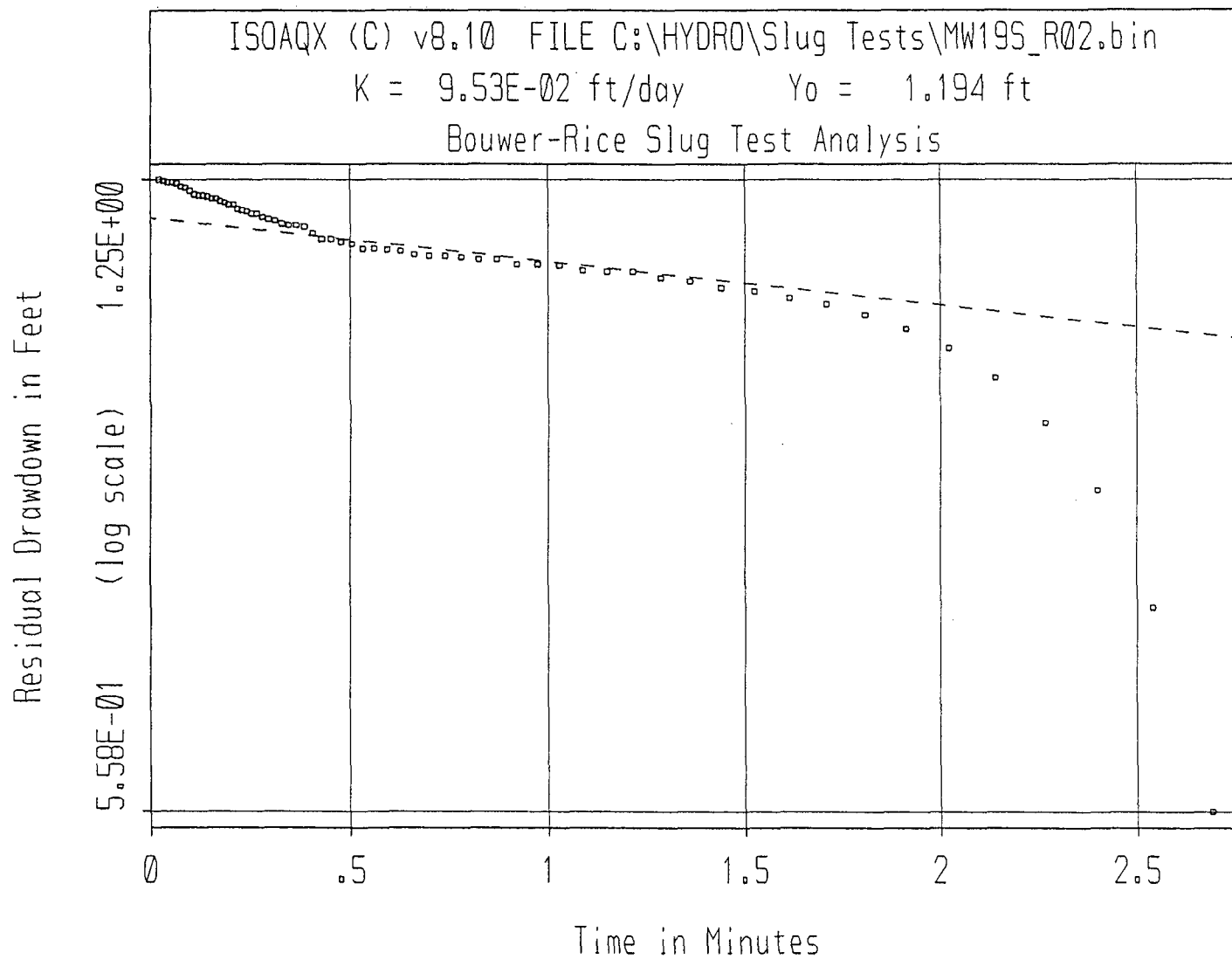
302374

ISOAQX (C) v8.10 FILE C:\HYDRO\Slug Tests\MW19S_R01.bin

K = 2.79E-02 ft/day Yo = 1.491 ft

Bouwer-Rice Slug Test Analysis





ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW19M_F01.bin

K = 1.34 ft/day Yo = 1.086 ft

Bouwer-Rice Slug Test Analysis

Residual Drawdown in Feet

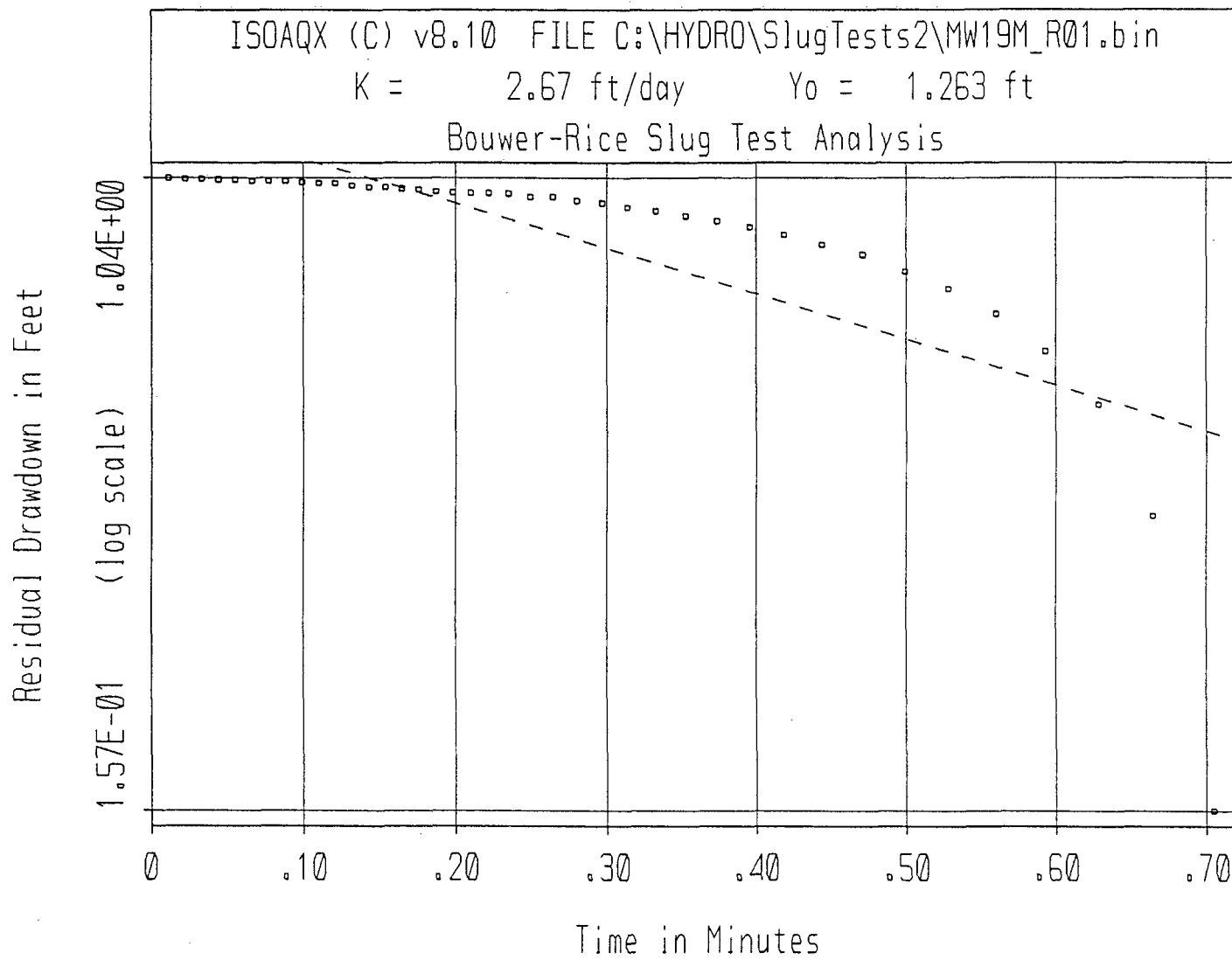
10^{-1}

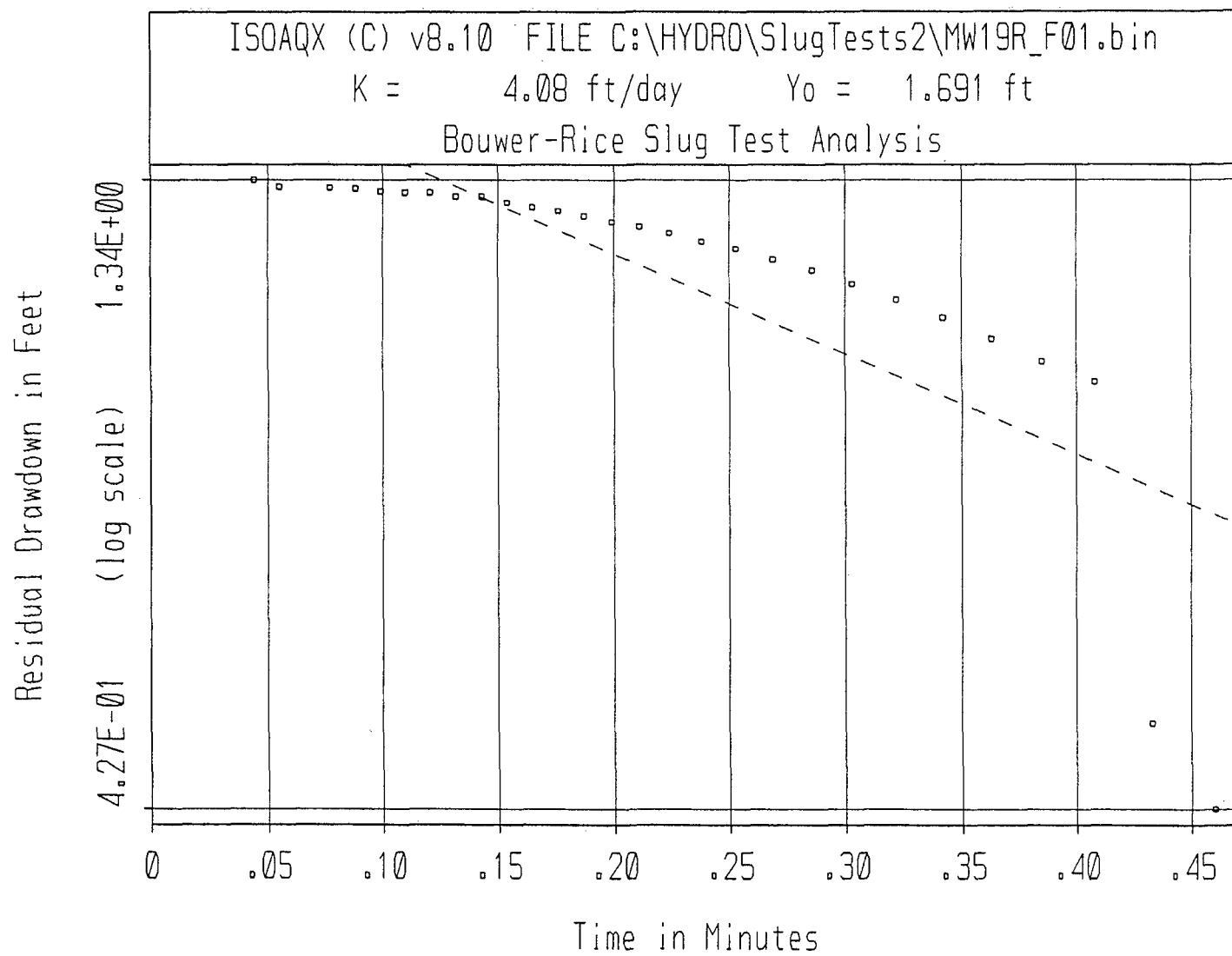
0 .2 .4 .6 .8 1 1.2 1.4 1.6 1.8 2 2.2

Time in Minutes

302377

302378

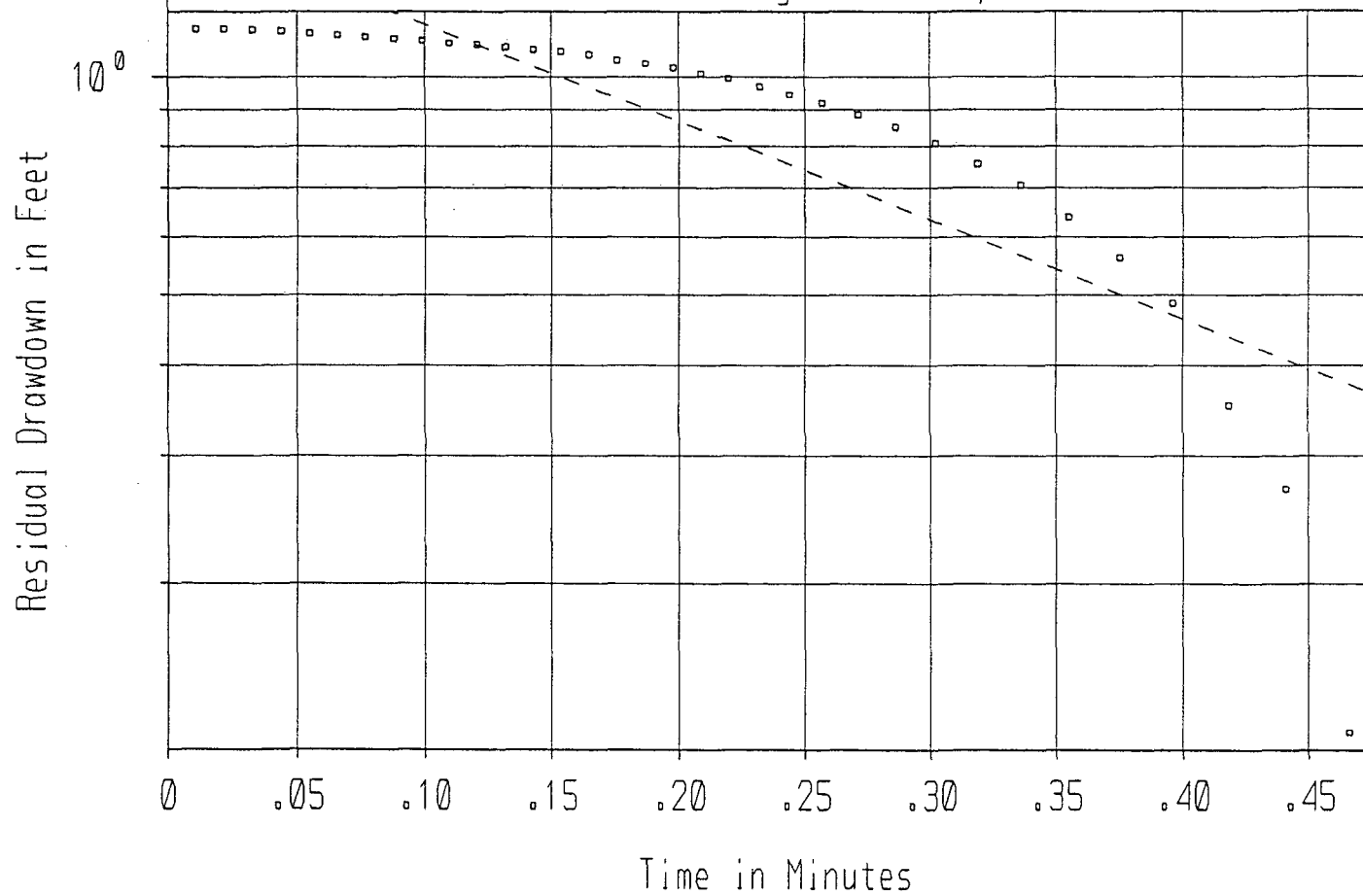




ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW19R_R01.bin

K = 6.99 ft/day Yo = 1.620 ft

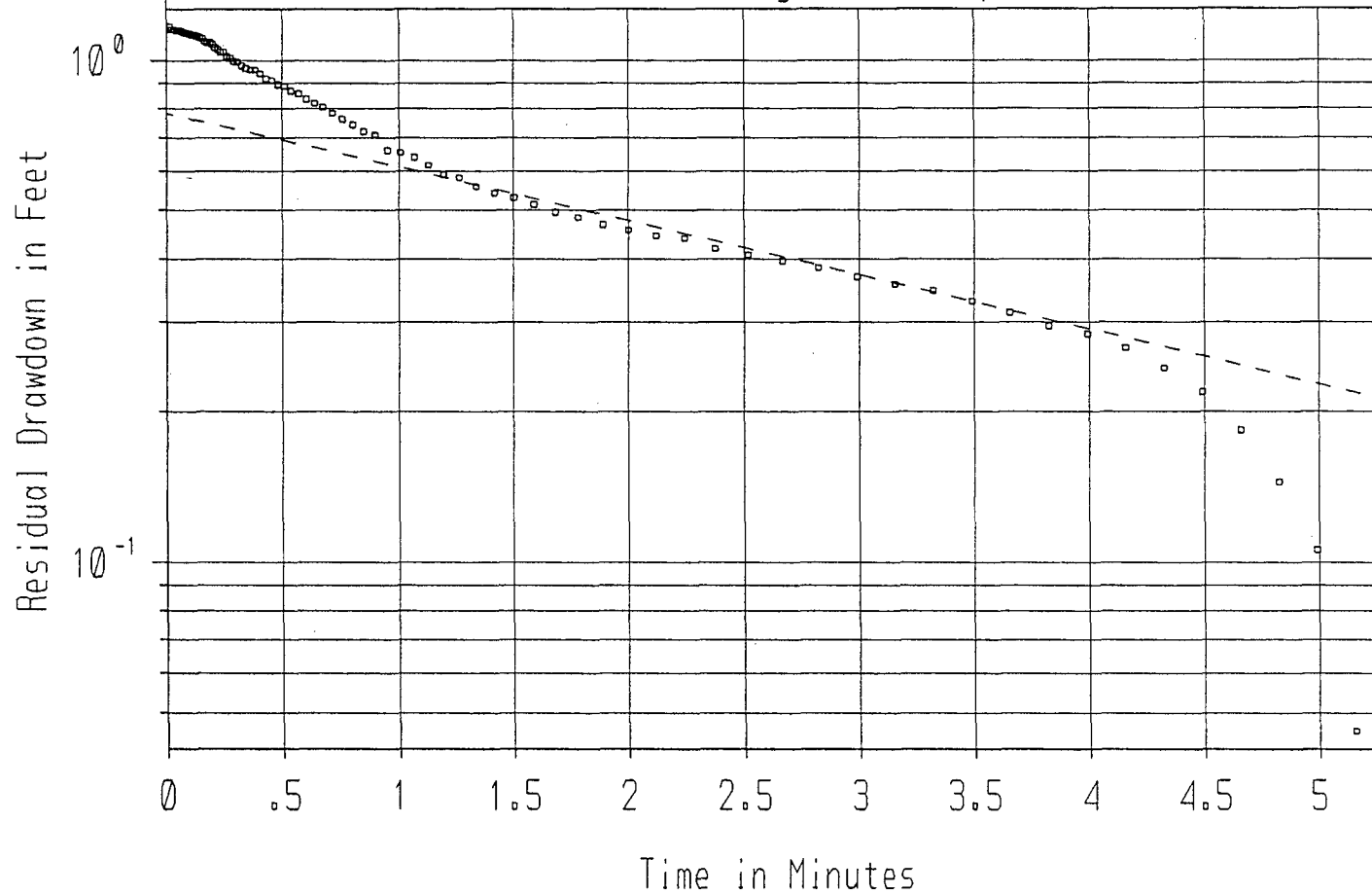
Bouwer-Rice Slug Test Analysis



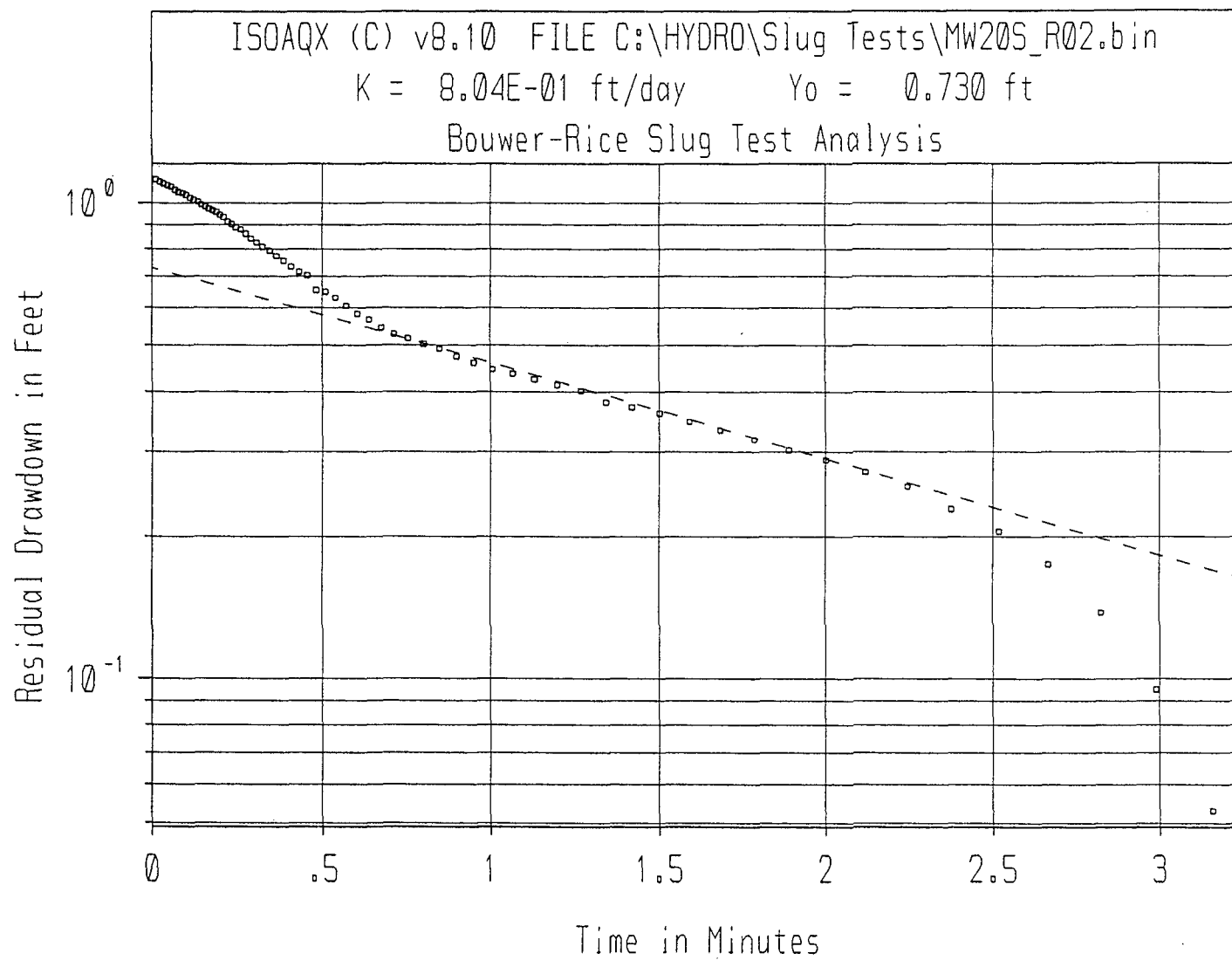
ISOAQX (C) v8.10 FILE C:\HYDRO\Slug Tests\MW205_R01.bin

K = 4.32E-01 ft/day Yo = 0.783 ft

Bouwer-Rice Slug Test Analysis

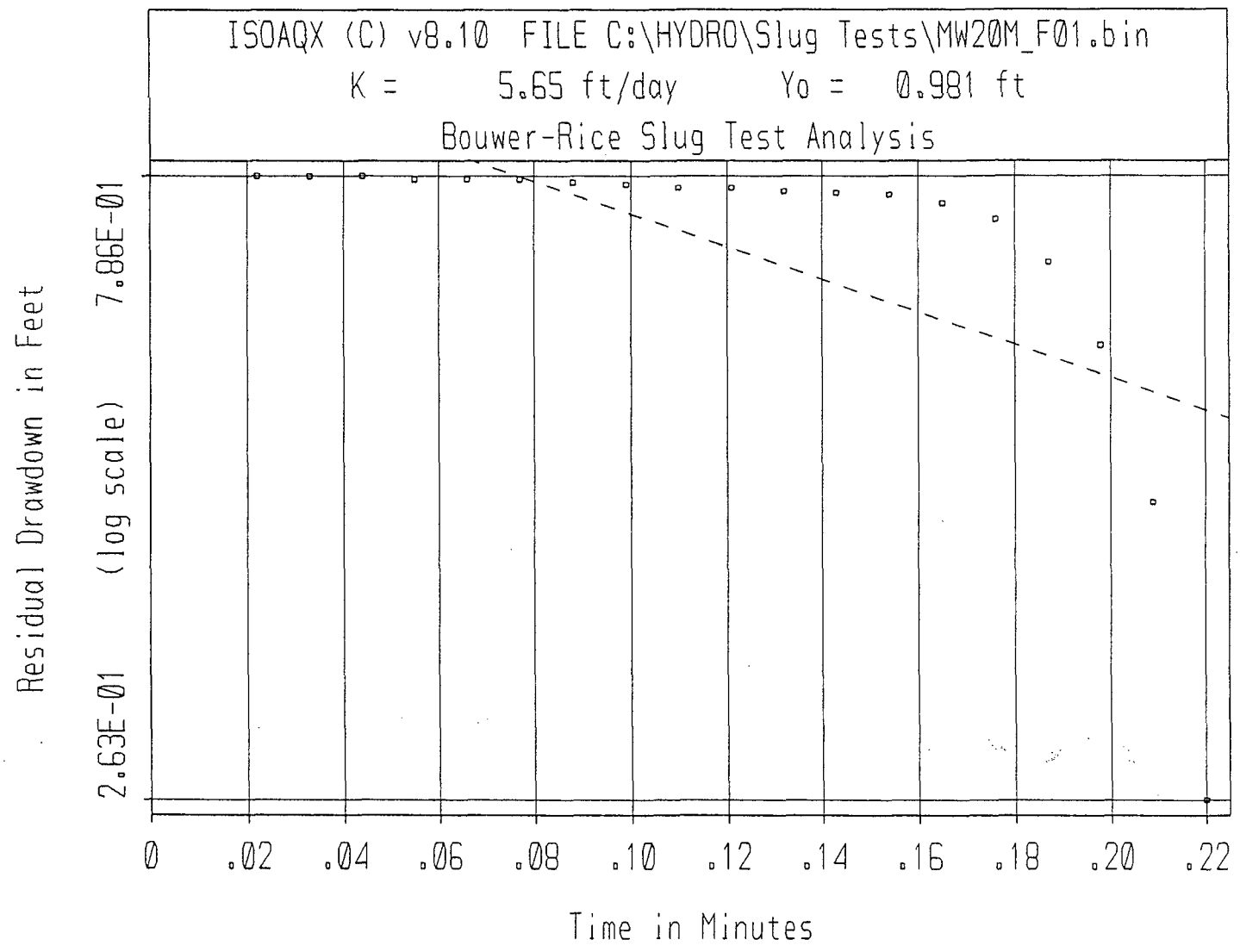


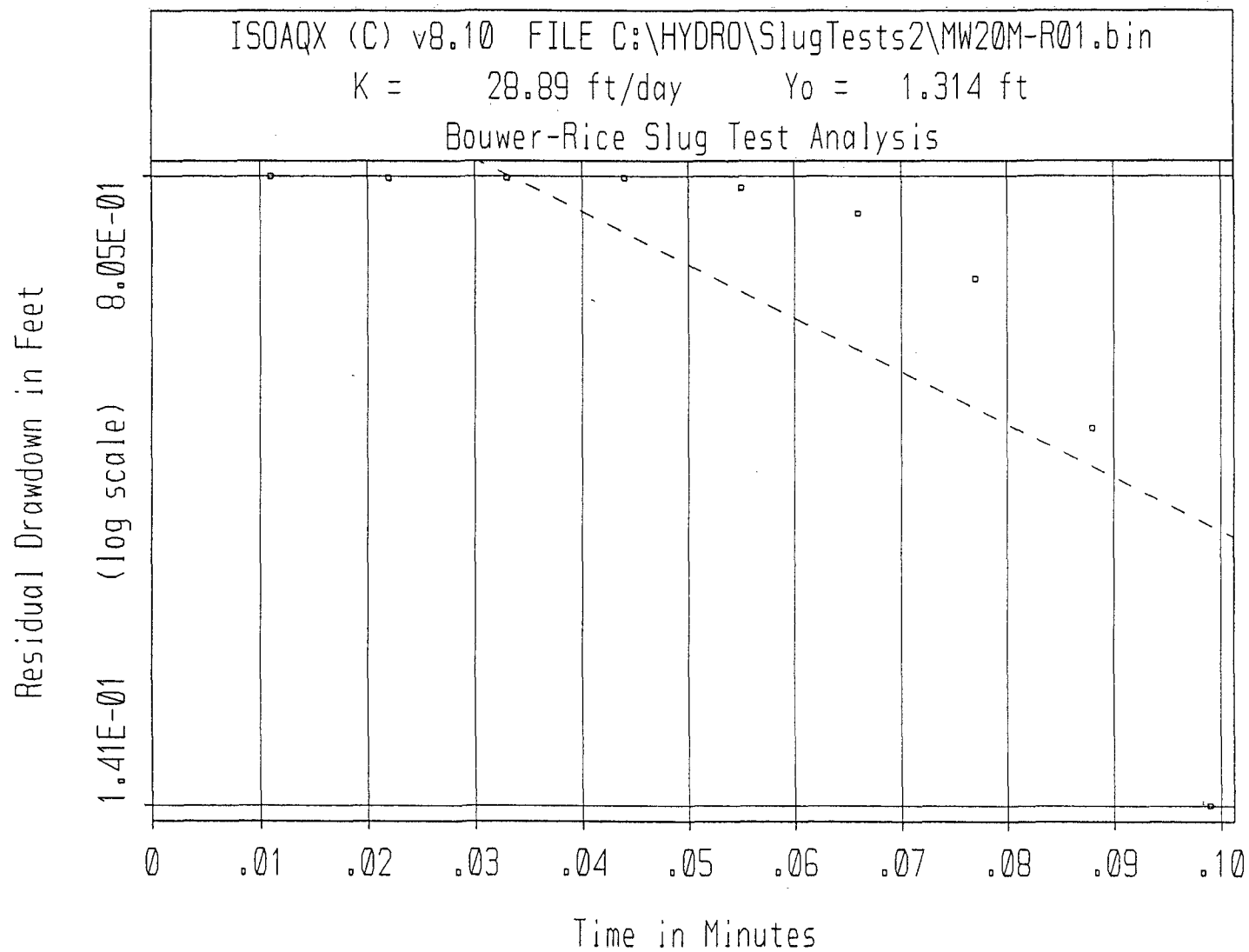
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302382

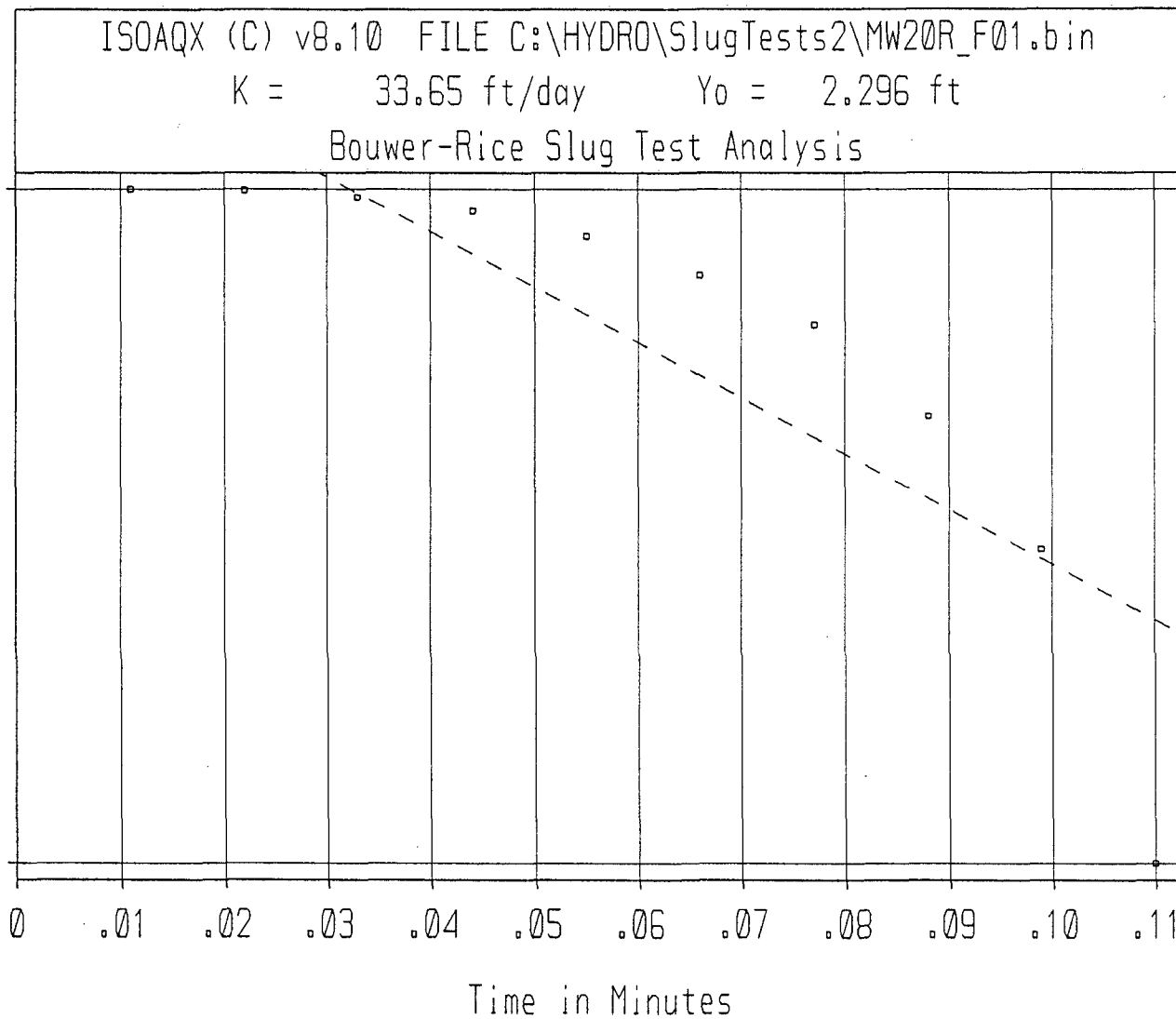
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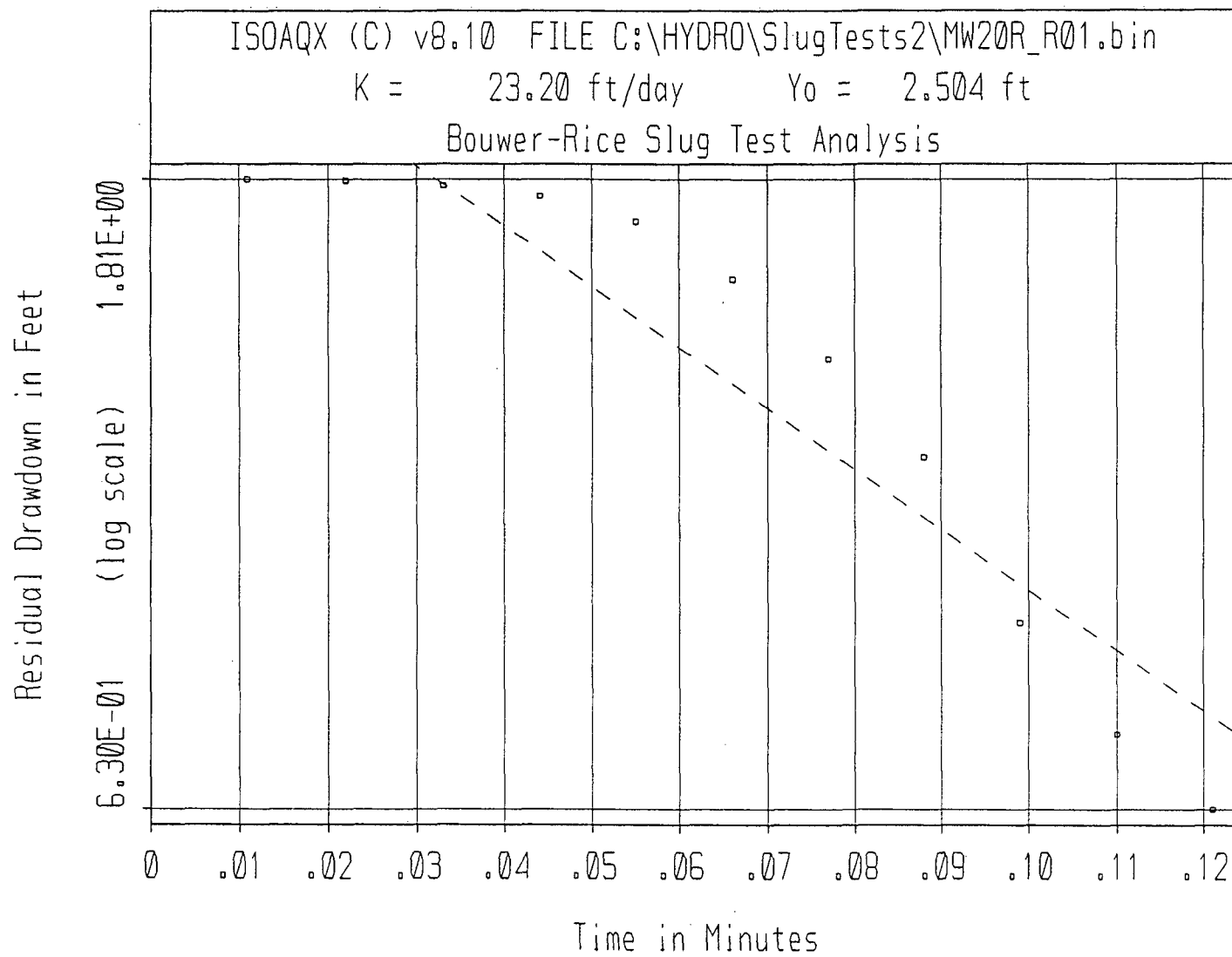




Residual Drawdown in Feet

2.38E-01 (log scale) 1.43E+00

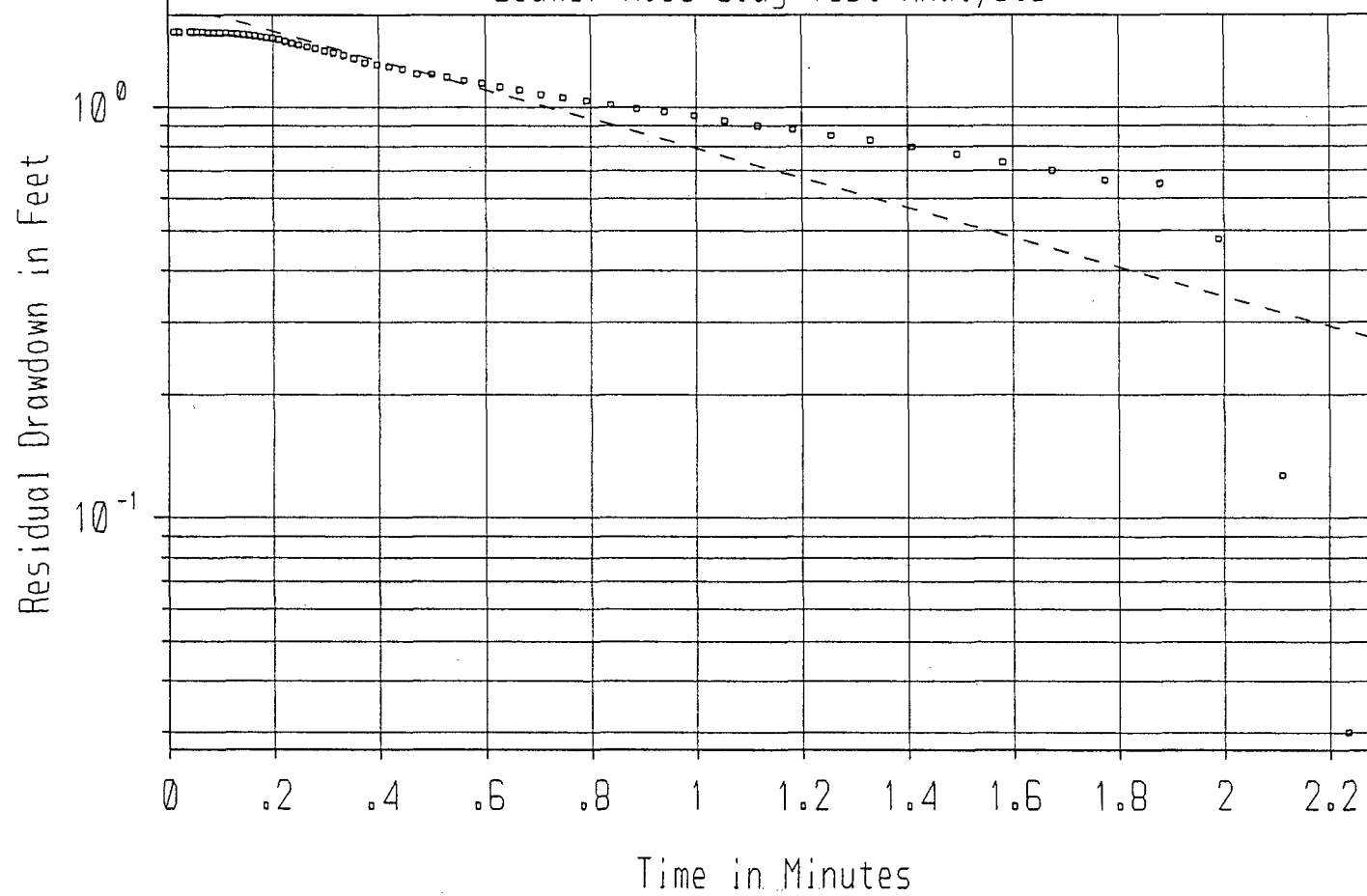




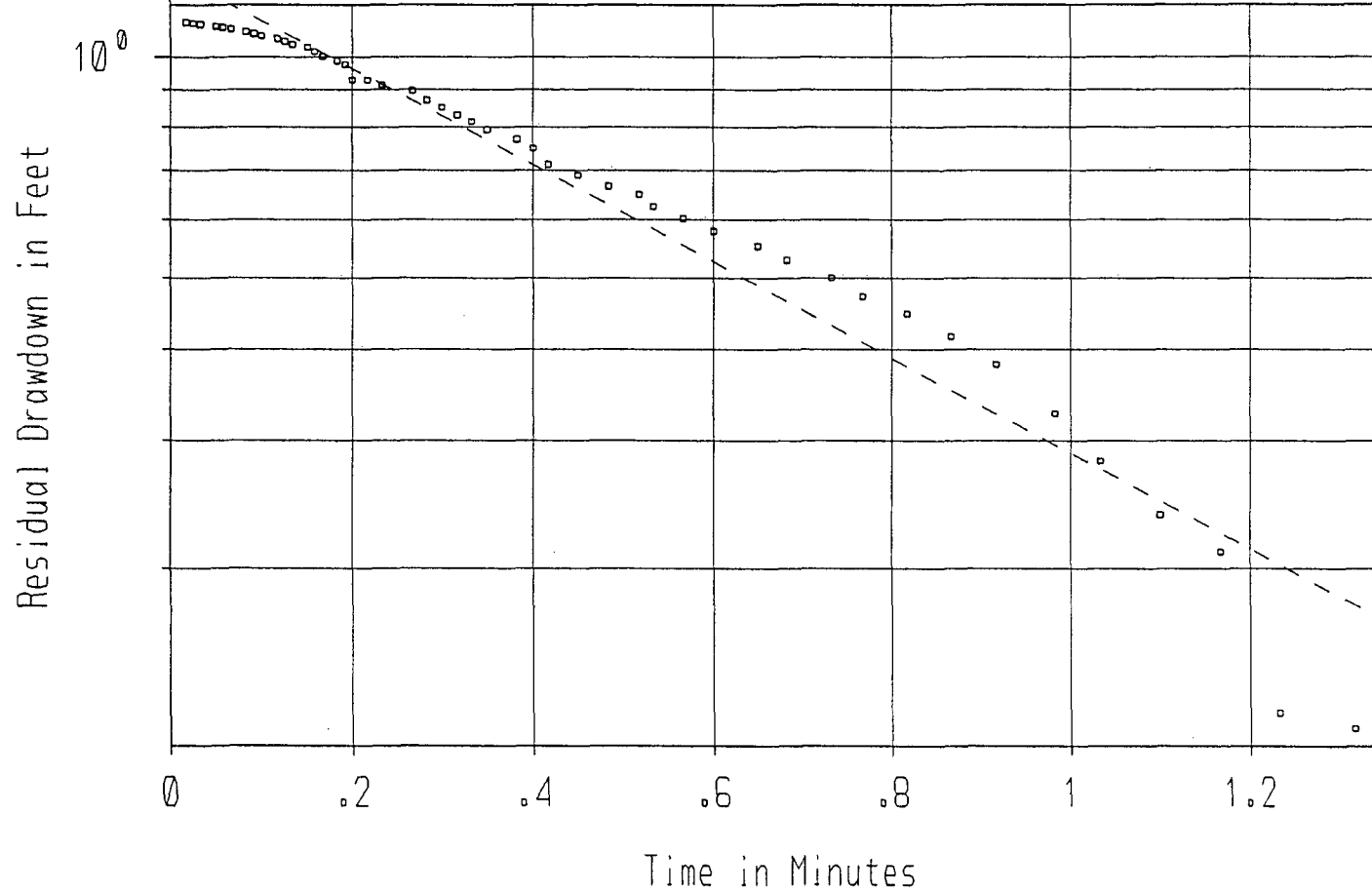
ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW20D_F01.bin

K = 1.80 ft/day Yo = 1.814 ft

Bouwer-Rice Slug Test Analysis



ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW20D_R01.bin
K = 3.27 ft/day Yo = 1.302 ft
Bouwer-Rice Slug Test Analysis



Residual Drawdown in Feet

(log scale)

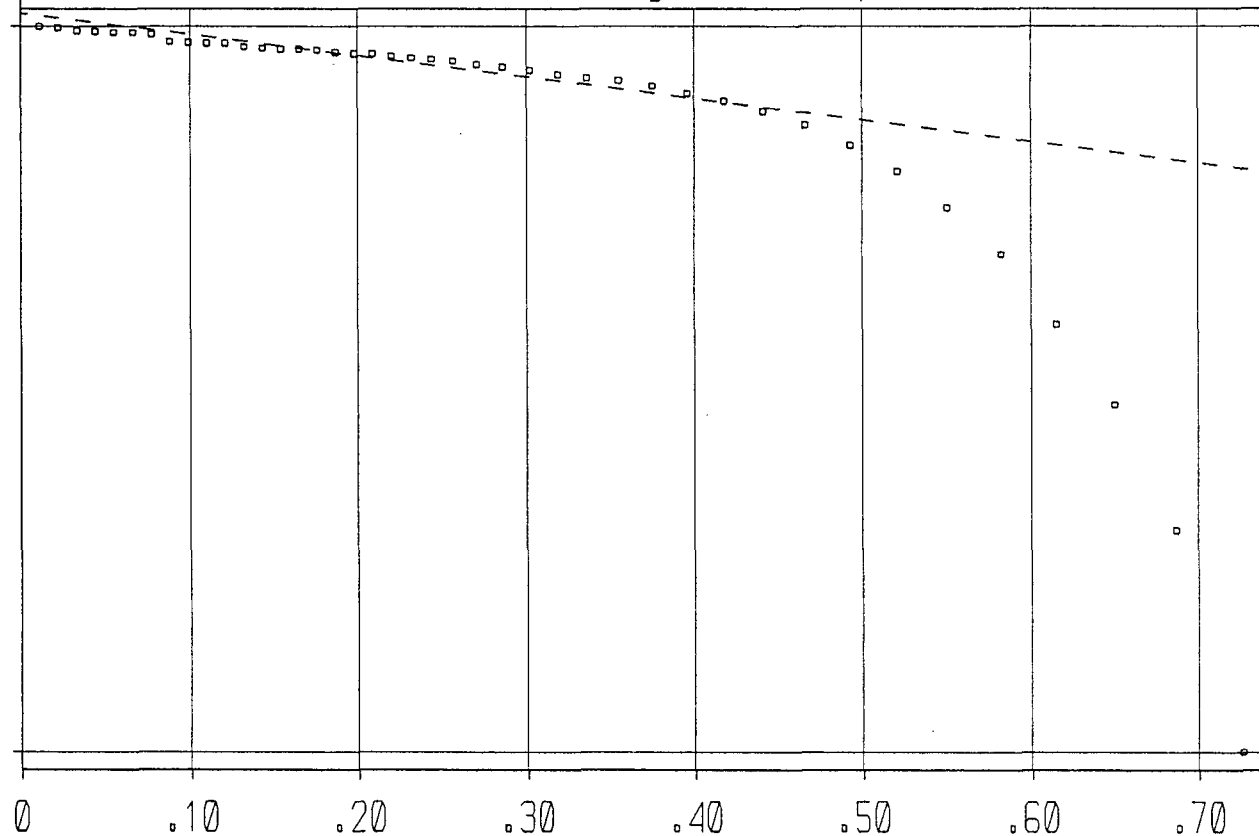
1.45E+00

4.93E-01

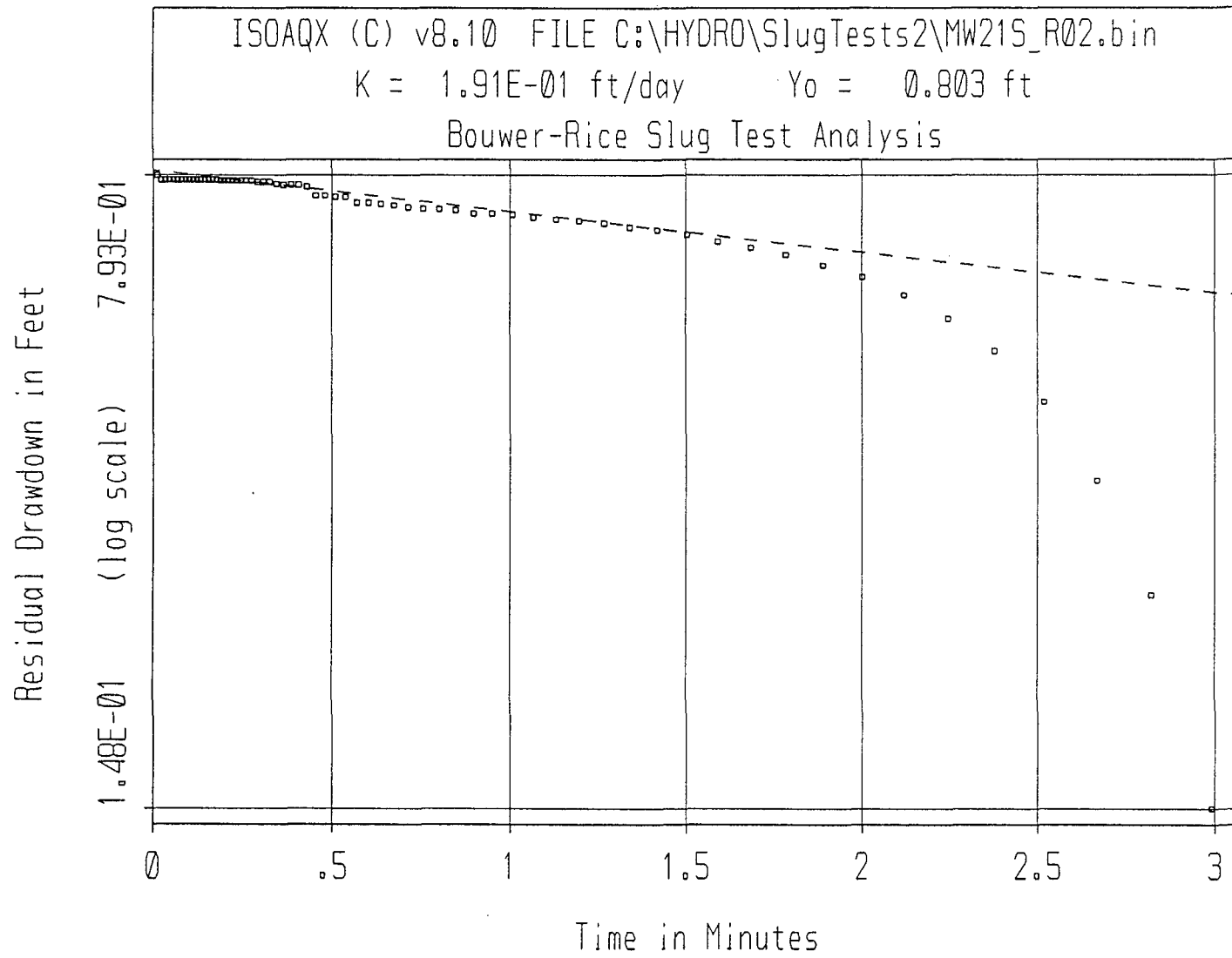
ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW21S_R01.bin

K = 5.61E-01 ft/day Yo = 1.479 ft

Bouwer-Rice Slug Test Analysis



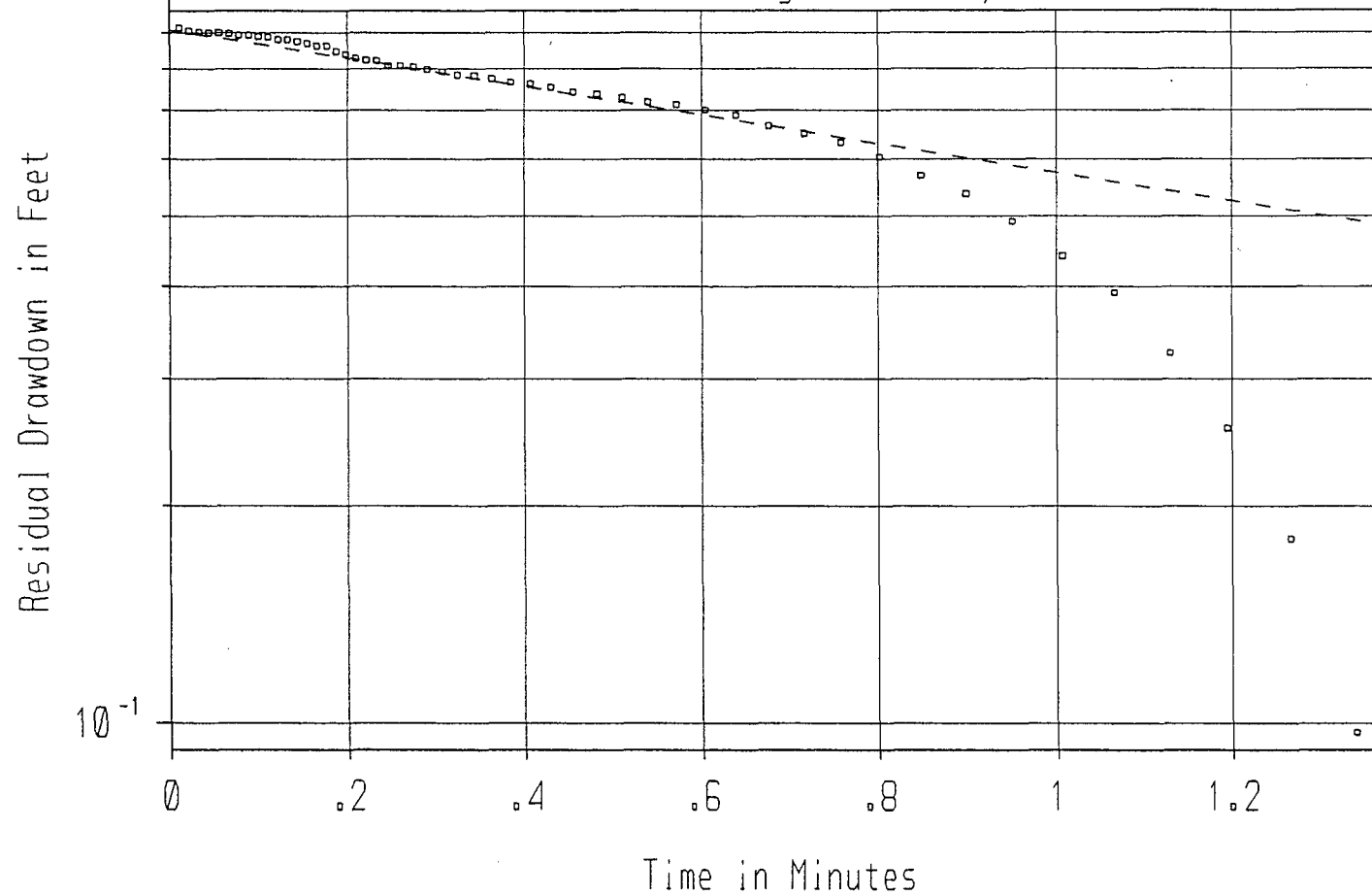
Time in Minutes



ISOAQX (C) v8.10 FILE C:\HYDRO\SlugTests2\MW225_R02.bin

K = 8.02E-01 ft/day Yo = 0.906 ft

Bouwer-Rice Slug Test Analysis



Appendix E
Surveyors Form B's

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):
This number must be permanently affixed to the
well casing.

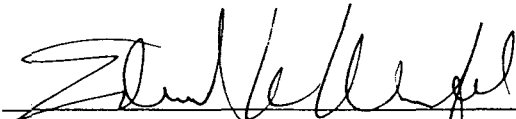
31-62085

Longitude (one-tenth of a second): NAD 83
Latitude (one-tenth of a second):
Elevation of Top of Casing (cap off)
(one-hundredth of a foot): NAVD 88
Owners Well Number (As shown on the application
or plans):

West 75° 07' 09.0"
North 39° 55' 32.2"
6.22'
MW 12M

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302394

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62082

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 08.9"

Latitude (one-tenth of a second):

North 39° 55' 32.3"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

6.74'

Owners Well Number (As shown on the application
or plans):

MW 12S

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.


PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):
This number must be permanently affixed to the
well casing.

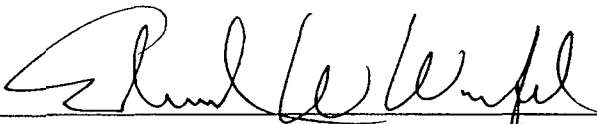
31-62086

Longitude (one-tenth of a second): NAD 83
Latitude (one-tenth of a second):
Elevation of Top of Casing (cap off)
(one-hundredth of a foot): NAVD 88
Owners Well Number (As shown on the application
or plans):

West 75° 07' 04.8"
North 39° 55' 32.5"
7.33'
MW 13M

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302396

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62083

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 04.9"

Latitude (one-tenth of a second):

North 39° 55' 32.4"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

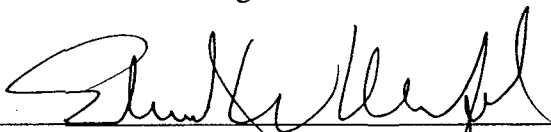
7.66'

Owners Well Number (As shown on the application
or plans):

MW 13S

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302397

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62521

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 08.3"

Latitude (one-tenth of a second):

North 39° 55' 31.8"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot):

NAVD 88

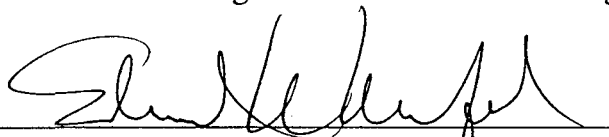
6.15'

Owners Well Number (As shown on the application
or plans):

MW 14D

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302398

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62520

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 08.4"

Latitude (one-tenth of a second):

North 39° 55' 31.8"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

6.18'

Owners Well Number (As shown on the application
or plans):

MW 14R

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.


PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831): 31-62519
This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83 West 75° 07' 08.7"
Latitude (one-tenth of a second): North 39° 55' 31.8"
Elevation of Top of Casing (cap off)
(one-hundredth of a foot): NAVD 88 6.26'
Owners Well Number (As shown on the application
or plans): MW 14S

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the
information submitted in this document and all attachments and that, based on my inquiry of
those individuals immediately responsible for obtaining the information, I believe the
submitted information is true, accurate and complete. I am aware that there are significant
penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL SEAL
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

24GS03116000
PROFESSIONAL LAND SURVEYOR'S LICENSE #

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62084

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 08.3"

Latitude (one-tenth of a second):

North 39° 55' 33.1"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

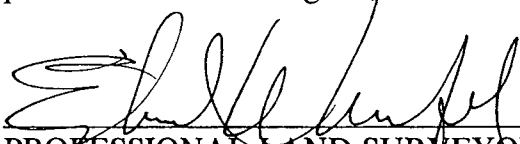
6.92'

Owners Well Number (As shown on the application
or plans):

MW 15M

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302401

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831): 31-62080
This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83 West 75° 07' 08.5"
Latitude (one-tenth of a second): North 39° 55' 33.2"
Elevation of Top of Casing (cap off)
(one-hundredth of a foot): NAVD 88 7.03'
Owners Well Number (As shown on the application
or plans): MW 15S

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the
information submitted in this document and all attachments and that, based on my inquiry of
those individuals immediately responsible for obtaining the information, I believe the
submitted information is true, accurate and complete. I am aware that there are significant
penalties for submitting false information including the possibility of fine and imprisonment.


PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL SEAL
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

24GS03116000
PROFESSIONAL LAND SURVEYOR'S LICENSE #

302402

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62081

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 05.1"

Latitude (one-tenth of a second):

North 39° 55' 35.2"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

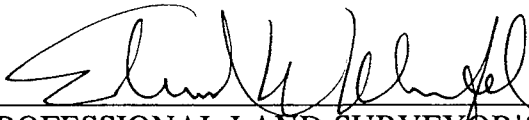
7.53'

Owners Well Number (As shown on the application
or plans):

MW 16S

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302403

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62173

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 09.7"

Latitude (one-tenth of a second):

North 39° 55' 35.7"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

7.02'

Owners Well Number (As shown on the application
or plans):

MW 17M

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62172

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 09.9"

Latitude (one-tenth of a second):

North 39° 55' 35.7"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

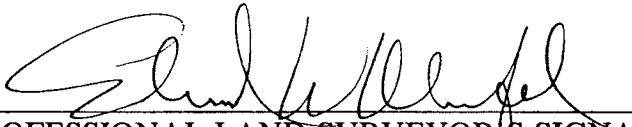
7.00'

Owners Well Number (As shown on the application
or plans):

MW 17S

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302405

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62179

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 07.9"

Latitude (one-tenth of a second):

North 39° 55' 36.2"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

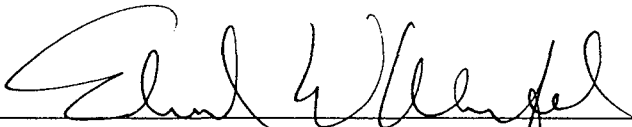
7.17'

Owners Well Number (As shown on the application
or plans):

MW 18D

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302406

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62178

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 07.5"

Latitude (one-tenth of a second):

North 39° 55' 36.2"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

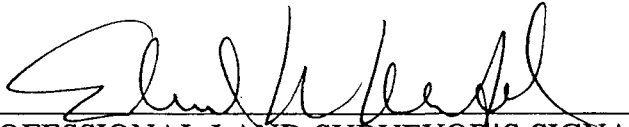
7.40'

Owners Well Number (As shown on the application
or plans):

MW 18M

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302407

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62177

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 07.7"

Latitude (one-tenth of a second):

North 39° 55' 36.2"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot):

NAVD 88

7.16'

Owners Well Number (As shown on the application
or plans):

MW 18S

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302408

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62181

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 03.7"

Latitude (one-tenth of a second):

North 39° 55' 36.6"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

6.46'

Owners Well Number (As shown on the application
or plans):

MW 19M

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-63457

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 03.7"

Latitude (one-tenth of a second):

North 39° 55' 36.4"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

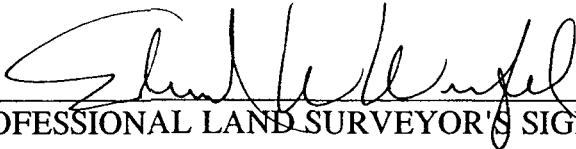
6.46'

Owners Well Number (As shown on the application
or plans):

MW 19R

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302410

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62180

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 03.7"

Latitude (one-tenth of a second):

North 39° 55' 36.6"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

6.37'

Owners Well Number (As shown on the application
or plans):

MW 19S

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.


PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302411

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62176

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 04.0"

Latitude (one-tenth of a second):

North 39° 55' 30.1"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

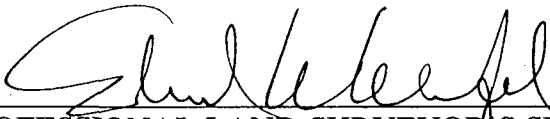
6.61'

Owners Well Number (As shown on the application
or plans):

MW 20D

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W. WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302412

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62175

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 04.0"

Latitude (one-tenth of a second):

North 39° 55' 29.8"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

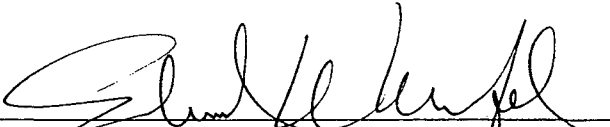
6.67'

Owners Well Number (As shown on the application
or plans):

MW 20M

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

3024.13

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-63458

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 04.0"

Latitude (one-tenth of a second):

North 39° 55' 29.9"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

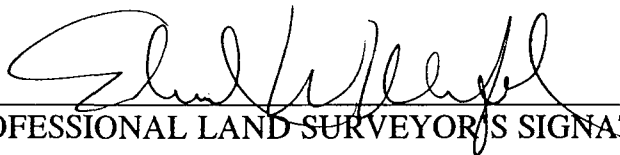
6.47'

Owners Well Number (As shown on the application
or plans):

MW 20R

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302414

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62174

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 04.0"

Latitude (one-tenth of a second):

North 39° 55' 29.5"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

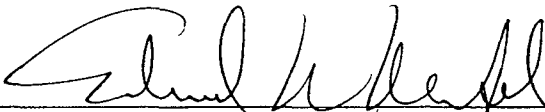
6.28'

Owners Well Number (As shown on the application
or plans):

MW 20S

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME

(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302415

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62522

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 16.4"

Latitude (one-tenth of a second):

North 39° 55' 31.9"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

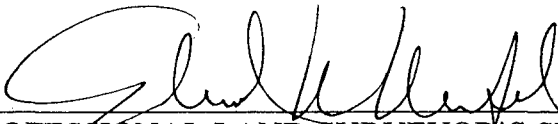
5.97'

Owners Well Number (As shown on the application
or plans):

MW 21S

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.


PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

24GS03116000

PROFESSIONAL LAND SURVEYOR'S LICENSE #

302416

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION
CERTIFICATION

Name of Permittee: Martin Aaron, Inc.
Name of Facility: Martin Aaron, Inc.
Location: 1542 South Broadway Street
Camden, NJ 08104-1302

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water
Allocation Section, 609-984-6831):

31-62523

This number must be permanently affixed to the
well casing.

Longitude (one-tenth of a second): NAD 83

West 75° 07' 11.3"

Latitude (one-tenth of a second):

North 39° 55' 30.8"

Elevation of Top of Casing (cap off)

(one-hundredth of a foot): NAVD 88

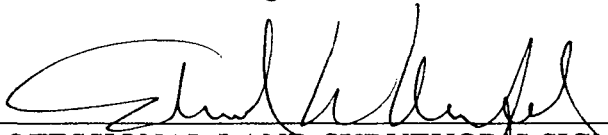
6.89'

Owners Well Number (As shown on the application
or plans):

MW 22S

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.


PROFESSIONAL LAND SURVEYOR'S SIGNATURE

EDWARD W WARFEL SEAL
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

24GS03116000
PROFESSIONAL LAND SURVEYOR'S LICENSE #

302417

Appendix F
Soil Boring Logs

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW12S
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.91 feet msl TOTAL DEPTH: 18.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/30/2001 9:00:00 AM FINISH: 10/30/2001 11:00:00 AM
 NORTHING: 398434.287 feet EASTING: 318492.002 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/ID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-2	Soil				0-2	CONCRETE (NOTE: concrete pad)				
2	2	2-4	Soil	12-16-10-7	26	1	0-1	Black (N1), moderately sorted, fine SAND, some silt, some fine gravel, dry	SP	10		PID(B)=0.7 ppm, (H)=10 ppm; RAD(B)=20 cpm, (H)=20 cpm
4	3	4-6	Soil	5-4-3-3	7	1.3	0-1	SAA		2		PID(B)=0.7 ppm, (H)=2 ppm; RAD(B)=20 cpm, (H)=20 cpm
5							1-1.4	Pale brown (5YR 5/2), moderately sorted, fine SAND, trace fine gravel, trace silt	SP	2		PID(B)=0.7 ppm, (H)=2 ppm; RAD(B)=20 cpm, (H)=20 cpm
6	4	6-8	Soil	2-2-3-1	5	0	0-2	No Recovery		3		PID(B)=0.0 ppm, (H)=3.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
8	5	8-10	Soil	WH-1-1-2	2	1.5	0-0.5	Black (N1), well sorted, subrounded, fine SAND and silt, trace fine gravel, wet	SM	3		PID(B)=0.0 ppm, (H)=3 ppm; RAD(B)=20 cpm, (H)=20 cpm
9							0.5-1	Dark gray (N3), well sorted, subangular, CLAY and silt, medium plasticity, wet, soft	CL	3		PID(B)=0.0 ppm, (H)=3 ppm; RAD(B)=20 cpm, (H)=20 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302420

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 2

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-MW12S
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Martin Aaron Proper
SURFACE ELEVATION: 6.91 feet msl **TOTAL DEPTH:** 18.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Hollow Stem Auger **DRILLING EQUIPMENT:** CME 85 Rig 4 1/4in I.D./8in O.D. HSA
SAMPLING METHOD: 2-in Split Spoon/Hammer/liners **CH2M GEOLOGIST:** Wojciech Winkler
START: 10/30/2001 9:00:00 AM **FINISH:** 10/30/2001 11:00:00 AM
NORTHING: 398434.287 feet **EASTING:** 318492.002 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
10	6	10-12	Soil	1-2-3-3	5	1.5	0-1.5	Dark gray (N3), well sorted, rounded, CLAY and silt, medium plasticity, wet, soft	CL	35		PID(B)=1.0 ppm, (H)=20-50 ppm; RAD(B)=20 cpm, (H)=20 cpm
11												
12	7	12-14	Soil	2-2-4-6	6	2	0-0.5	SAA		40		PID(B)=1.0 ppm, (H)=40-60 ppm; RAD(B)=40 cpm, (H)=40 cpm
13							0.5-1.5	Dark yellowish brown (10YR 4/2), well sorted, subrounded, fine SAND, wet	SP	40		PID(B)=1.0 ppm, (H)=20-40 ppm; RAD(B)=40 cpm, (H)=40 cpm
14	8	14-16	Soil	WH-4-22	26	1.5	0-1	Dark gray (N3), well sorted, rounded, CLAY and silt, wet, soft	CL	40		PID(B)=1.0 ppm, (H)=40 ppm; RAD(B)=40 cpm, (H)=40 cpm
15							1-1.2 1.2-1.5	Yellowish gray (5Y 7/2), well sorted, rounded, medium SAND, wet	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
16								Dark gray (N3), well sorted, rounded, medium SAND, wet	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
17												
18												

NOTES:

msl = mean sea level

bgs = below ground surface

302421

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 5

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW12M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.56 feet msl TOTAL DEPTH: 54.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/05/2001 11:20:00 AM FINISH: 11/05/2001 2:30:00 PM
 NORTHING: 398423.444 feet EASTING: 318484.55 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6" 6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
16								NOTE: Blind drill to 18 ft bgs. See boring MA-MW12S.				
17												
18	1	18-20	Soil	WH-WH-1-2	2	0-2		Yellowish gray (5Y 7/2), mottled (common, fine, prominent, dark yellowish orange), well sorted, rounded, CLAY and silt, medium plasticity, wet, very soft	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=80 cpm
19												
20	2	20-22	Soil	WH-WH-1-2	2	0-2		SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=40 cpm
21												
22	3	22-24	Soil	4-14-11-8	25	2	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
23												
24	4	24-26	Soil	5-2-1-6	3	.58	0-0.5	Moderate yellowish brown (10YR 5/4), poorly sorted, subangular, fine SAND and clay, non-plastic, wet, medium dense Pale yellowish brown (10YR 6/2), mottled (common, medium, faint, pale olive), very poorly sorted, subangular, fine to medium SAND and fine gravel, wet	SC SW	0 0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=60 cpm PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
25												

NOTES:

msl = mean sea level

bgs = below ground surface

302422

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 5

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW12M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.56 feet msl TOTAL DEPTH: 54.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/05/2001 11:20:00 AM FINISH: 11/05/2001 2:30:00 PM
 NORTHING: 398423.444 feet EASTING: 318484.55 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
26	5	26-28	Soil	7-4-4-1	8	1	0-1	Moderate yellowish brown (10YR 5/4), mottled (common, fine, distinct, pale olive), very well sorted, subangular, fine SAND, some clay and silt, wet, very loose, very thinly bedded	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
27												
28	6	28-30	Soil				0-0.1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
29												
30	7	30-32	Soil	7-14-13-9	27	.67	0-1	Moderate yellowish brown (10YR 5/4), mottled (common, fine, distinct, moderate yellowish brown), poorly sorted, subangular, fine GRAVEL and fine sand and silt, wet, loose	GM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
31												
32	8	32-34	Soil	8-10-12-11	22	1.5	0-0.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0.5-0.6	Yellowish gray (5Y 7/2), interbedded, CLAY, medium plasticity, moist	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
33							0.6-1.5	Pale greenish yellow (10Y 8/2), mottled (common, medium, distinct, pale greenish yellow), well sorted, medium to coarse GRAVEL and clay, wet	GC	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
34												

NOTES:

msl = mean sea level

bgs = below ground surface

302423

**CH2MHILL****SOIL BORING LOG**

SHEET 3 OF 5

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW12M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.56 feet msl TOTAL DEPTH: 54.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/05/2001 11:20:00 AM FINISH: 11/05/2001 2:30:00 PM
 NORTHING: 398423.444 feet EASTING: 318484.55 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
35	9	34-36	Soil		1	0-0.7	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
						0.7-1	Very pale orange (10YR 8/2), mottled (few, fine, distinct, very pale orange), intermixed, SILT and clay, low plasticity	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
36	10	36-38	Soil	18-23-26-31	49	2	0-1	Very pale orange (10YR 8/2), well sorted, subangular, intermixed, coarse SAND	SP	0	PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cp.
37						1-2	Very pale orange (10YR 8/2), mottled (few, fine, distinct, dark yellowish orange), well sorted, subangular, fine to medium SAND, trace fine gravel, wet, medium dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
38	11	38-40	Soil	10-16-28-34	44	1.3	0-2.5	SAA	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
40	12	40-42	Soil	10-10-14-27	24	1	0-1	SAA	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
42	13	42-44	Soil	14-15-23-34	38	2	0-2	SAA (NOTE: more gravel at bottom of spoon)	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302424

**CH2MHILL****SOIL BORING LOG**

SHEET 4 OF 5

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW12M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.56 feet msl TOTAL DEPTH: 54.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/05/2001 11:20:00 AM FINISH: 11/05/2001 2:30:00 PM
 NORTHING: 398423.444 feet EASTING: 318484.55 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
44	14	44-46	Soil	11-14-17-41	31	1.3	0-1.6	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
45												
46	15	46-48	Soil	10-16-17-24	33	1.58	0-1.8	SAA, Dark yellowish orange (10YR 6/6)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
47												
48	16	48-50	Soil	16-30-34-41	64	1.3	0-1	SAA (NOTE: layer of 10YR 8/2 colored sand at 48ft ~ about 1in dense)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
49												
50	17	50-52	Soil	WH-33-35-32	68	1.67	0-1	Dark yellowish orange (10YR 6/6), mottled (many, fine, prominent, yellowish gray), CLAY and silt, medium plasticity, moist, dense, laminated	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
51							1-1.8	Dark yellowish orange (10YR 6/6), mottled (common, medium, distinct, dark yellowish orange), well sorted, subangular, coarse SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
52												

NOTES:

msl = mean sea level

bgs = below ground surface

302425

**CH2MHILL****SOIL BORING LOG**

SHEET 5 OF 5

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW12M

PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper

SURFACE ELEVATION: 6.56 feet msl TOTAL DEPTH: 54.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA

SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh

START: 11/05/2001 11:20:00 AM FINISH: 11/05/2001 2:30:00 PM

NORTHING: 398423.444 feet EASTING: 318484.55 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
53	18	52-54	Soil		2	0-1.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
						1.5-2	SAA (NOTE: fine sand)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
54											

NOTES:

msl = mean sea level

bgs = below ground surface

302426



CH2MHILL

SOIL BORING LOG

SHEET 1 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW13S
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.86 feet msl TOTAL DEPTH: 18.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/30/2001 12:40:00 PM FINISH: 10/30/2001 3:00:00 PM
 NORTHING: 398438.594 feet EASTING: 318808.35 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-2	Soil	4-4-5-13	9	1.5	0-1	Dark yellowish orange (10YR 6/6), well sorted, rounded, fine SAND, trace fine gravel, dry	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=20 ppm, (H)=20 ppm
1							1-1.5	Black (N1), well sorted, rounded, fine SAND and silt, dry	SM	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=20 ppm, (H)=20 ppm
2	2	2-4	Soil	9-7-8-4	15	.5	0-0.5	SAA		0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=20 ppm, (H)=20 ppm
3												
4	3	4-6	Soil	2-2-2-2	4	0.83	0-0.8	Black (N1), mottled (many, fine, prominent, dark yellowish orange), moderately sorted, subangular, fine SAND, trace silt, trace fine gravel, dry	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6	4	6-8	Soil	5-7-7-2	14	.5	0-0.5	Black (N1), moderately sorted, subangular, fine SAND, some silt, some fine gravel, wet	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												
9												

NOTES:

msl = mean sea level

bgs = below ground surface

302427

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 2

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-MW13S
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Martin Aaron Proper
SURFACE ELEVATION: 7.86 feet msl **TOTAL DEPTH:** 18.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:** _____
DRILLING METHOD: Hollow Stem Auger **DRILLING EQUIPMENT:** CME 85 Rig 4 1/4in I.D./8in O.D. HSA
SAMPLING METHOD: 2-in Split Spoon/Hammer/liners **CH2M GEOLOGIST:** Wojciech Winkler
START: 10/30/2001 12:40:00 PM **FINISH:** 10/30/2001 3:00:00 PM
NORTHING: 398438.594 feet **EASTING:** 318808.35 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-8"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
10	5	10-12	Soil	WH-WH-1-1	1.2	0-1.2	Black (N1), well sorted, rounded, silty CLAY, high plasticity, wet, very soft	CH	1		PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
11											
12	6	12-14	Soil		1.5	0-0.3	Pale yellowish brown (10YR 6/2), well sorted, subangular, fine SAND, wet	SP	1		PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
13											
14	7	14-16	Soil	1-2-3-5	5	1	0-1	Black (N1), well sorted, subangular, fine SAND, wet (NOTE: 14ft-13in--petroleum like odor)	SP	1	PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
15											
16	8	16-18	Soil	6-8-9-12	17	1.5	0-1.3	SAA	1		PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
17											
18											

NOTES:

msl = mean sea level

bgs = below ground surface

302428

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 7

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW13M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.59 feet msl TOTAL DEPTH: 66.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/02/2001 8:00:00 AM FINISH: 11/02/2001 1:00:00 PM
 NORTHING: 398446.578 feet EASTING: 318814.378 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
16								NOTE: Blind drill to 18 ft bgs. See log for boring MA-MW13S for soil descriptions.				
17												
18	1	18-20	Soil	2-4-7-8	11	1.3	0-2	Moderate brown (5YR 4/4), mottled (common, fine, distinct, pale green), well sorted, rounded, intermixed, SILT, trace fine sand, moist	ML	2		PID(B)=1.7 ppm, (H)=2.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
19												
20	2	20-22	Soil	6-6-5-4	11	1	0-1	Moderate yellowish brown (10YR 5/4), well sorted, rounded, SILT, trace fine sand, slight plasticity, wet	ML	1		PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
21												
22	3	22-24	Soil	8-5-6-6	11	1.5	0-1.5	Moderate yellowish brown (10YR 5/4), mottled (common, fine, distinct, pale olive), well sorted, rounded, intermixed, fine to coarse SAND and silt, wet	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
23												

NOTES:

msl = mean sea level

bgs = below ground surface

302429



CH2MHILL

SOIL BORING LOG

SHEET 2 OF 7

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW13M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.59 feet msl TOTAL DEPTH: 66.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/02/2001 8:00:00 AM FINISH: 11/02/2001 1:00:00 PM
 NORTHING: 398446.578 feet EASTING: 318814.378 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
24	4	24-26	Soil	2-5-8-8	13	1.25	0-0.5	Dark yellowish brown (10YR 4/2), mottled (common, fine, distinct, pale yellowish green), well sorted, rounded, CLAY and silt, medium plasticity, wet	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
25							0.5-1.5	Light olive gray (5Y 5/2), mottled (many, fine, prominent, moderate brown), well sorted, rounded, interbedded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
26	5	26-28	Soil	2-6-9-11	15	1.3	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
27												
28	6	28-30	Soil	4-10-11-15	21	2	0-2	Moderate yellowish brown (10YR 5/4), mottled (common, fine, faint, dark yellowish orange), well sorted, rounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
29												
30	7	30-32	Soil	6-8-9-11	17	2	0-1.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
31												

NOTES:

msl = mean sea level

bgs = below ground surface

302430

**CH2MHILL****SOIL BORING LOG**

SHEET 3 OF 7

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW13M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.59 feet msl TOTAL DEPTH: 66.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/02/2001 8:00:00 AM FINISH: 11/02/2001 1:00:00 PM
 NORTHING: 398446.578 feet EASTING: 318814.378 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/ID READING (PPM)	OTHER TESTING	COMMENTS
32	8	32-34	Soil	12-9-13-16	22	1.75	0-1.75	Moderate yellowish brown (10YR 5/4), mottled (common, fine, very pale orange), well sorted, rounded, medium SAND, wet (NOTE: thin layer (2in) on bottom of 10YR 5/4 not mottled, well sorted, clay and silt (CL), medium plasticity)	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
33								Moderate yellowish brown (10YR 5/4), mottled (many, fine, faint, very pale orange), moderately sorted, subrounded, medium SAND, trace fine gravel	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
34	9	34-36	Soil	4-5-6-8	11	2	0-1	Moderate yellowish brown (10YR 5/4), well sorted, rounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
35							1-2	Moderate yellowish brown (10YR 5/4), mottled (many, fine, faint, very pale orange), well sorted, subrounded, medium SAND, trace fine gravel	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
36	10	36-38	Soil	7-7-11-14	18	2	0-1.5	Dark yellowish brown (10YR 4/2), mottled (many, fine, faint, dark yellowish orange), well sorted, rounded, fine SAND and silt	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
37							1.5-2	Grayish red (5R 4/2), well sorted, CLAY and, medium plasticity	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
38	11	38-40	Soil	7-14-20-28	34	2	0-0.5	Medium dark gray (N4), well sorted, rounded, silty CLAY, high plasticity, wet	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302431

**CH2MHILL****SOIL BORING LOG**

SHEET 4 OF 7

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW13M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.59 feet msl TOTAL DEPTH: 66.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/02/2001 8:00:00 AM FINISH: 11/02/2001 1:00:00 PM
 NORTHING: 398446.578 feet EASTING: 318814.378 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
39							0.5-2	Dark yellowish orange (10YR 6/6), mottled (many, fine, prominent, yellowish gray), well sorted, rounded, CLAY and silt, medium plasticity, wet	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
40	12	40-42	Soil	3-6-10-14	16	.67	0-0.67	Dark yellowish orange (10YR 6/6), well sorted, rounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
41												
42	13	42-44	Soil	20-40-50	90	1.08	0-2	Very pale orange (10YR 8/2), mottled (few, fine, prominent, light red), moderately sorted, subrounded, fine SAND, little fine gravel, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
43												
44	14	44-46	Soil	7-12-30-50	42	1	0-1	Pale yellowish brown (10YR 6/2), mottled (common, fine, faint, very pale orange), well sorted, subrounded, fine SAND, little fine gravel, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
45												
46												

NOTES:

msl = mean sea level

bgs = below ground surface

302432

**CH2MHILL****SOIL BORING LOG**

SHEET 5 OF 7

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW13M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.59 feet msl TOTAL DEPTH: 66.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/02/2001 8:00:00 AM FINISH: 11/02/2001 1:00:00 PM
 NORTHING: 398446.578 feet EASTING: 318814.378 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
47	15	46-48	Soil	13-17-21-27	38	1.5	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
48	16	48-50	Soil	8-23-32-35	55	1	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
49							1-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, medium SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
50	17	50-52	Soil	13-25-37-31	62	1	0-1	mottled (few, fine, prominent, light red), well sorted, subrounded, medium SAND, little clay, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
51												
52	18	52-54	Soil			1	0-0.5	Dark yellowish orange (10YR 6/6), well sorted, medium SAND, some clay	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
53							0.5-1	Moderate yellow (5Y 7/6), well sorted, subrounded, medium SAND and clay, low plasticity, wet	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302433

**CH2MHILL****SOIL BORING LOG**

SHEET 6 OF 7

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW13M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.59 feet msl TOTAL DEPTH: 66.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/02/2001 8:00:00 AM FINISH: 11/02/2001 1:00:00 PM
 NORTHING: 398446.578 feet EASTING: 318814.378 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
54	19	54-56	Soil	20-21-27-23	48	1.5	0-1	Moderate brown (5YR 4/4), well sorted, rounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
55							1-1.5	Grayish orange (10YR 7/4), well sorted, rounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
56	20	56-58	Soil	28-32-50	82	1	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
57												
58	21	58-60	Soil	21-27-39-31	66	1.08	0-0.5	Dark yellowish orange (10YR 6/6), well sorted, subangular, medium SAND, trace silt, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
59							0.5-1	Dark yellowish orange (10YR 6/6), well sorted, subangular, medium SAND and silt, little fine gravel, wet	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
60	22	60-62	Soil	18-21-27-24	48	2	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
61							1-1.5		CL	0		PID(B)=0.0 ppm, (H)=0.0

NOTES:

msl = mean sea level

bgs = below ground surface

302434

**CH2MHILL****SOIL BORING LOG**

SHEET 7 OF 7

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-MW13M
PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
SURFACE ELEVATION: 7.59 feet msl TOTAL DEPTH: 66.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
START: 11/02/2001 8:00:00 AM FINISH: 11/02/2001 1:00:00 PM
NORTHING: 398446.578 feet EASTING: 318814.378 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
62	23	62-64	Soil	21-23-27-31	50	1.08	1.5-2 Grayish orange (10YR 7/4), well sorted, rounded, CLAY and medium sand, wet	CL	0		ppm; RAD(B)=20 cpm, (H)=20 cpm
							Dark yellowish orange (10YR 6/6), well sorted, subrounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							SAA, CLAY and medium sand, thinly bedded	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
63											
64	24	64-66	Soil			1.3	0-1.8 Pale yellowish orange (10YR 8/6), well sorted, subrounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
65											
66											

NOTES:

msl = mean sea level
bgs = below ground surface

302435

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14S
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.60 feet msl TOTAL DEPTH: 18.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Winkler/Rech
 START: 01/10/2002 9:15:00 AM FINISH: _____
 NORTHING: 398382.355 feet EASTING: 318512.705 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-2	Soil				0-1	CONCRETE (NOTE: 0ft - 1ft - Concrete foundation sub-base)				0ft - 1ft - Concrete foundation sub-base
1	2	1-3	Soil	4-6-6-6	12	2	0-0.5 0.5-1	Grayish black (N2), well sorted, subangular, fine SAND, little silt, dry, medium dense	SM			
2								Dark yellowish orange (10YR 6/6), well sorted, subangular, fine SAND, little silt, dry, medium dense	SM			
3	4	3-5	Soil	4-4-5-5	9	1	0-1	SAA, dry, medium dense				
4												
5	5	5-7	Soil	2-3-2-3	5	0.5	0-0.5	Grayish black (N2), moderately sorted, subangular, medium SAND, trace silt, trace fine gravel, dry, loose (NOTE: PID not working, but distinct volatile odor at 8ft - 10ft)	SM			
6												
7	6	7-9	Soil	1-1-1-1	2	0.2	0-0.2	Grayish black (N2), moderately sorted, subangular, medium SAND, some fine gravel, trace silt, wet, very loose	SM			
8												
9	7	9-11	Soil	1-2-3-5	5	1.3	0-1	SAA, wet, loose				
10							1-1.3	Olive gray (5Y 4/1), well sorted, subrounded, fine SAND, trace silt, wet, loose	SM			
11	9	11-12	Soil	4-4-5-6	9	1	0-1	SAA, wet, loose				
12	10	12-14	Soil	4-4-4-3	8	1	0-1	Dark yellowish brown (10YR 4/2), well sorted, subrounded, medium SAND, trace silt, wet, loose	SM			
13												
14	11	14-16	Soil	4-4-5-6	9	1	0-1	SAA, wet, loose				
15												
16	12	16-18	Soil	WH	NA		0-2	Moderate greenish yellow (10Y 7/4), well sorted, subrounded, fine SAND and clay, low plasticity, moist, very loose	SC			
17												
18												

NOTES:

msl = mean sea level

bgs = below ground surface

302436

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 9

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14R
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.60 feet msl TOTAL DEPTH: 120.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: _____ FINISH: _____
 NORTHING: 398382.809 feet EASTING: 318528.828 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0											
1	1	0-2	Soil			0.5-1.5	Dark yellowish orange (10YR 6/6), well sorted, subangular, fine to medium SAND and silt, little clay, dry	SM	1		PID(B) = 1.0 ppm, (H) = 1.0 ppm
2	2	2-4	Soil			0-0.1	Dark gray (N3), moderately sorted, angular, fine to medium GRAVEL, trace silt, trace clay, dry	GP	1		PID(B) = 1.0 ppm, (H) = 1.0 ppm
3											
4	3	4-6	Soil			0-2	SAA, dry				PID(B)=1.0 ppm, (B)=1.0 ppm
5											
6	4	6-8	Soil			0-2	SAA, dry				PID(B)=1.0 ppm, (B)=1.0 ppm
7											
8	5	8-10	Soil			0-0.3	SAA, dry		0.8		PID(B) = 1.0 ppm, (H) = 0.8 ppm
9											
10	6	10-12	Soil	9-9-9-48		0-2	Pale olive (10Y 6/2), well sorted, subangular, fine to medium GRAVEL, trace silt, moist, loose	SP	0.8		PID(B) = 1.9 ppm, (H) = 0.8 ppm
11											
12	7	12-14	Soil	2-3-8-13		0-2	SAA, moist, medium dense		0.8		PID(B) = 4.7, (H) = 0.8 ppm
13											
14	8	14-16	Soil	14-12-50/5		0-2	SAA, moist		0.8		PID(B) = 7.4 ppm, (H) = 0.8 ppm

NOTES:

msl = mean sea level

bgs = below ground surface

302437



CH2MHILL

SOIL BORING LOG

SHEET 2 OF 9

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14R

PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper

SURFACE ELEVATION: 6.60 feet msl TOTAL DEPTH: 120.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit

SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech

START: _____ FINISH: _____

NORTHING: 398382.809 feet EASTING: 318528.828 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
15												
16	9	16-18	Soil	WH-WH-WH-WH		0-2		Pale olive (10Y 6/2), mottled (common, fine, distinct, dark yellowish orange), well sorted, subrounded, SILT and clay, wet, very loose	MH	0.8		PID(B) = 6 ppm, (H) = 0.8
17												
18	10	18-20	Soil	10-34-35-37		0-2		Grayish pink (5R 8/2), poorly sorted, subangular, medium to coarse SAND, trace clay, wet, very dense	SW	0.8		PID(B) = 5.0, (H) = 0.8
19												
20	11	20-22		11-35-33-37		0-2		SAA, wet, very dense		1.7		PID(B) = 8.0, (H) = 1.7
21												
22	12	22-24		26-24-24-30		0-2		Dark reddish brown (10R 3/4), well sorted, subangular, fine to medium SAND, trace medium gravel, trace silt, wet, dense	SP	0.9		PID(B) = 8.0, (H) = 0.9
23												
24	13	24-26	Soil	18-25-20-18		0-2		SAA, wet, dense		0.9		PID(B) = 5.0, (H) = 0.9
25												
26	14	26-28	Soil			0-2		SAA				
27												
28	15	28-30	Soil	13-14-50/4		0-2		Pale reddish brown (10R 5/4), well sorted, subangular, medium to coarse SAND, trace medium gravel, trace silt, wet	SP	0		PID(B) = 0.3 ppm, (H) = 0.0 ppm
29												

NOTES:

msl = mean sea level

bgs = below ground surface

302438

**CH2MHILL****SOIL BORING LOG**

SHEET 3 OF 9

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14R
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.60 feet msl TOTAL DEPTH: 120.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: _____ FINISH: _____
 NORTHING: 398382.809 feet EASTING: 318528.828 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
30	16	30-32	Soil	49-50/5			0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, medium to coarse SAND, little medium gravel, wet	SP	0.7		PID(B) = 0.7 ppm, (H) = 0.0 ppm
31												
32	17	32-34	Soil	35-44-50/5			0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, coarse SAND, some fine gravel, wet	SP	0		PID(B) = 0.0, (H) = 0.0
33												
34	18	34-36	Soil	30-32-34-34			0-2	Very pale orange (10YR 8/2), well sorted, subangular, coarse SAND, some fine gravel, wet, very dense	SP	0		PID(B) = 6.0 ppm, (H) = 0.0 ppm
35												
36	19	36-38	Soil	35-39-35-30			0-0.5	SAA, wet, very dense		0		PID(B) = 6.0 ppm, (H) = 0.0 ppm
37							0.5-1.1	well sorted, subangular, coarse SAND, some fine gravel, wet, very dense	SP	0		PID(B) = 6.0 ppm, (H) = 0.0 ppm
38	20	38-40	Soil	17-50/5			0-2	Pale yellowish brown (10YR 6/2), well sorted, subrounded, SILT and clay, some coarse sand, low plasticity, wet	MH	0		PID(B) = 0.0 ppm, (H) = 0.0 ppm
39												
40	21	40-42	Soil	35-50/5			0-2	Grayish orange pink (10R 8/2), well sorted, subangular, medium to coarse SAND, little fine gravel, trace silt, wet	SP	0		PID(B) = 7.5 ppm, (H) = 0.0 ppm
41												
42	22	42-44	Soil	36-50/5			0-2	Very pale orange (10YR 8/2), well sorted, medium to coarse SAND, some clay, wet	SC	0		PID(B) = 4.2 ppm, (H) = 0.0 ppm
43												

NOTES:

msl = mean sea level

bgs = below ground surface

302439



CH2MHILL

SOIL BORING LOG

SHEET 4 OF 9

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14R
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.60 feet msl TOTAL DEPTH: 120.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: _____ FINISH: _____
 NORTHING: 398382.809 feet EASTING: 318528.828 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
44	23	44-46	Soil	38-50/5			0-2	Very pale orange (10YR 8/2), well sorted, subangular, medium to coarse SAND, little clay, wet	SP			
45												
46	24	46-48	Soil	28-50/5			0-2	SAA, wet		0		PID(B) = 5.1 ppm, PID(H) = 0.0 ppm
47												
48	25	48-50	Soil	50/5			0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, medium to coarse SAND, little clay, wet	SP	0		PID(B) = 7.5 ppm, (H) = 0.0 ppm
49												
50	26	50-52	Soil	41-50/5			0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, fine GRAVEL and coarse sand, wet	GP	0		PID(B) = 7.9 ppm, (H) = 0.0
51												
52	27	52-54	Soil	50/5			0-2	SAA, wet		0		PID(B) = 8.1ppm, (H) = 0.0 ppm
53												
54	28	54-56	Soil	39-50/5			0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, fine GRAVEL, some coarse sand, little medium gravel, wet	GP	0		PID(B) = 4.5 ppm, (H) = 0.0 ppm
55												
56	29	56-58	Soil	25-50/5in			0-2	Yellowish gray (5Y 7/2), mottled (many, fine, distinct, dark yellowish green), well sorted, subrounded, clayey SILT, slight plasticity, wet	ML	0		PID(B) = 5.1 ppm, (H) = 0.0 ppm
57												
58												

NOTES:

msl = mean sea level

bgs = below ground surface

302440

**CH2MHILL****SOIL BORING LOG**

SHEET 5 OF 9

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14R
PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
SURFACE ELEVATION: 6.60 feet msl TOTAL DEPTH: 120.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
START: _____ FINISH: _____
NORTHING: 398382.809 feet EASTING: 318528.828 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6" 6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
58	30	58-60	Soil	26-50/6			0-0.5	SAA, wet	CL			
59							0.5-1.1	Yellowish gray (5Y 7/2), mottled (many, fine, distinct, dark yellowish orange), well sorted, subrounded, CLAY and silt, medium plasticity, wet				
60	32	60-62	Soil	32-50/5in			0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, medium to coarse SAND, wet	SP	0		PID(B) = 7.0 ppm, (H) = 0.0 ppm
61												
62	33	62-64	Soil	50/5			0-2	SAA, wet		0		PID(B) = 7.0 ppm, (H) = 0.0 ppm
63												
64	34	64-66	Soil	50/4			0-2	SAA, wet		0.5		PID(B) = 1.8 ppm, (H) = 0.5 ppm
65												
66	35	66-68	Soil	100/4			0-2	SAA, wet		0.5		PID(B) = 4.5 ppm, (H) = 0.0 ppm
67												
68	36	68-70	Soil	50/4			0-2	SAA, wet				
69												
70	37	70-72	Soil	50/4			0-2	SAA, wet		0.6		PID(B) = 2.5 ppm, (H) = 0.6 ppm
71												
72	38	72-74	Soil	50/6			0-2	SAA, wet				

NOTES:

msl = mean sea level

bgs = below ground surface

302441

**CH2MHILL****SOIL BORING LOG**

SHEET 6 OF 9

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14R
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.60 feet msl TOTAL DEPTH: 120.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: _____ FINISH: _____
 NORTHING: 398382.809 feet EASTING: 318528.828 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
73												
74	39	74-76	Soil	50/3			0-2	SAA, wet				
75												
76	40	76-78	Soil	50/4			0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, fine GRAVEL, little medium gravel, wet	GP			
77												
78	41	78-80	Soil	50/3			0-2	SAA, wet				
79												
80	42	80-82	Soil	24-38-50/3			0-2	Very pale orange (10YR 8/2), well sorted, subrounded, CLAY and silt, medium plasticity, wet	0			PID(B) = 11.0 ppm, (H) = 0.0 ppm
81												
82	43	82-84	Soil	75/5			0-2	Grayish orange (10YR 7/4), well sorted, subangular, coarse SAND, trace silt, wet	1			PID(B) = 1.0 ppm, (H) = 1.0 ppm
83												
84	44	84-86	Soil	50/4			0-2	SAA, wet	1			PID(B) = 3.1 ppm, (H) = 1.0 ppm
85												
86	45	86-88	Soil	50/4			0-2	SAA, wet	1			PID(B) = 4.1 ppm, (H) = 1.0 ppm
87												

NOTES:

msl = mean sea level

bgs = below ground surface

302442

**CH2MHILL****SOIL BORING LOG**

SHEET 7 OF 9

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14R
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.60 feet msl TOTAL DEPTH: 120.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: _____ FINISH: _____
 NORTHING: 398382.809 feet EASTING: 318528.828 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
88	46	88-90	Soil	50/4			0-2	SAA, wet		1.2		PID(B) = 3.2 ppm, (H) = 1.2 ppm
89												
90	47	90-92	Soil	50/3			0-2	SAA, wet		1.2		PID(B) = 5.1 ppm, (H) = 1.2 ppm
91												
92	48	92-94	Soil	50/3			0-2	SAA, wet		1		PID(B) = 4.1 ppm, (H) = 1.0 ppm
93												
94	49	94-96	Soil	50/4			0-2	SAA, wet		0.7		PID(B) = 2.2 ppm, (H) = 0.7 ppm
95												
96	50	96-98	Soil	50/4			0-2	SAA, wet		0.7		PID(B) = 4.7 ppm, (H) = 0.7 ppm
97												
98	51	98-100	Soil	21-50/4			0-2	Yellowish gray (5Y 7/2), mottled (common, fine, distinct, dark yellowish orange), well sorted, subangular, intermixed, CLAY and silt, wet	CL	0.7		PID(B) = 4.1 ppm, (H) = 0.7 ppm
99												
100	52	100-102	Soil	26-50/5			0-0.8	Yellowish gray (5Y 7/2), well sorted, subrounded, CLAY and silt, medium plasticity, wet	CL	2.2		PID(B) = 2.7 ppm, (H) = 2.2 ppm
101							0.8-1.3	Yellowish gray (5Y 7/2), well sorted, subrounded, clayey SILT, low plasticity, wet	MH	2.2		PID(B) = 2.7 ppm, (H) = 2.2 ppm

NOTES:

msl = mean sea level

bgs = below ground surface

302443

**CH2MHILL****SOIL BORING LOG**

SHEET 8 OF 9

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-MW14R
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Martin Aaron Proper
SURFACE ELEVATION: 6.60 feet msl **TOTAL DEPTH:** 120.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:** _____
DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit **DRILLING EQUIPMENT:** Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
SAMPLING METHOD: Down-the-Hole 2-in Split Spoon **CH2M GEOLOGIST:** Winkler/Rech
START: _____ **FINISH:** _____
NORTHING: 398382.809 feet **EASTING:** 318528.828 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
102	54	102-104	Soil	29-50/6			0-2	No Recovery				
103												
104	55	104-106	Soil	46-50/6			0-2	Yellowish gray (5Y 7/2), well sorted, subrounded, clayey SILT, some fine sand, wet	ML	2.4		PID(B) = 4.7 ppm, (H) = 2.4 ppm
105												
106	56	106-108	Soil	38-50/4			0-2	SAA, wet		2.4		PID(B) = 5.1 ppm, (H) 2.4 ppm
107												
108	57	108-110	Soil	50/6			0-2	Yellowish gray (5Y 7/2), well sorted, subrounded, fine SAND, some clay, wet (NOTE: Layered with 3in layers of 5Y 7/2, not mottled, well sorted, subrounded, clay, (CL), and silt, thread dia. 1/16in.)	SC			
109												
110	58	110-112	Soil	32-50/4			0-0.5	Yellowish gray (5Y 7/2), well sorted, subrounded, CLAY and silt, medium plasticity, wet	CL	1.9		PID(B) = 5.2 ppm, PID(H) = 1.9 ppm; Driller noted solid clay from 110-112ft from rig behavior
111							0.5-1.3	Yellowish gray (5Y 7/2), mottled (few, fine, distinct, dark yellowish orange), well sorted, subrounded, CLAY, high plasticity, wet (NOTE: Driller noted solid clay from 110-112ft from rig behavior)	CH	1.9		PID(B) = 5.2 ppm, (H) = 1.9 ppm
112	60	112-114	Soil	23-50-60/6			0-2	Yellowish gray (5Y 7/2), well sorted, subrounded, fine SAND, little clay, wet	SC	1.9		PID(B) = 5.7 ppm, (H) = 1.9 ppm
113												
114	61	114-116	Soil	29/6			0-2	SAA, wet (NOTE: Clay lense 3in at 114ft, same clay as 110.5ft - 113ft)		1.9		
115												
116												

NOTES:

msl = mean sea level

bgs = below ground surface

302444

**CH2MHILL****SOIL BORING LOG**

SHEET 9 OF 9

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14R

PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper

SURFACE ELEVATION: 6.60 feet msl TOTAL DEPTH: 120.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit

SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech

START: _____ FINISH: _____

NORTHING: 398382.809 feet EASTING: 318528.828 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
117	62	116-118	Soil	50/5in			0-0.2	SAA, wet				
118	63	118-120	Soil	50/5in			0-0.1	SAA, wet				
119												
120												

NOTES:

msl = mean sea level
bgs = below ground surface

302445



CH2MHILL

SOIL BORING LOG

SHEET 1 OF 13

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.55 feet msl TOTAL DEPTH: 182.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN:
 DRILLING METHOD: Mud Rotary DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: 01/02/2002 7:20:00 PM FINISH:
 NORTHING: 398382.657 feet EASTING: 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0												
1	1	0-2	Soil			1.5	0.5-1.5	Dark yellowish orange (10YR 6/6), well sorted, subangular, fine to medium SAND and silt, little clay, dry	SM	1		PID(B) = 1.0 ppm, (H) = 1.0 ppm
2	2	2-4	Soil		NA	0.1	0-0.1	Dark gray (N3), moderately sorted, angular, fine to medium GRAVEL, trace silt, trace clay, dry	GP	1		PID(B) = 1.0 ppm, (H) = 1.0 ppm
3												
4	3	4-6	Soil		NA	0	0-2	SAA, dry				PID(B)=1.0 ppm, (B)=1.0 ppm
5												
6	4	6-8	Soil		NA	0	0-2	SAA, dry				PID(B)=1.0 ppm, (B)=1.0 ppm
7												
8	5	8-10	Soil		NA	0.3	0-0.3	SAA, dry		0.8		PID(B) = 1.0 ppm, (H) = 0.8 ppm
9												
10	6	10-12	Soil	9-9-9-48	18	0.6	0-2	Pale olive (10Y 6/2), well sorted, subangular, fine to medium SAND, trace silt, moist, loose	SP	0.8		PID(B) = 1.9 ppm, (H) = 0.8 ppm
11												
12	7	12-14	Soil	2-3-8-13	11	0.7	0-2	SAA, moist, medium dense		0.8		PID(B) = 4.7, (H) = 0.8 ppm
13												
14	8	14-16	Soil	14-12-50/5	NA		0-2	SAA, moist		0.8		PID(B) = 7.4 ppm, (H) = 0.8 ppm

NOTES:

msl = mean sea level

bgs = below ground surface

302446

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 13

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.55 feet msl TOTAL DEPTH: 182.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: 01/02/2002 7:20:00 PM FINISH: _____
 NORTHING: 398382.657 feet EASTING: 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
15											
16	9	16-18	Soil	WH-WH-WH-WH	2	0-2	Pale olive (10Y 6/2), mottled (common, fine, distinct, dark yellowish orange), well sorted, subrounded, SILT and clay, wet, very loose	MH	0.8		PID(B) = 6 ppm, (H) = 0.8
17											
18	10	18-20	Soil	10-34-35-37	69	1	0-2	Grayish pink (5R 8/2), poorly sorted, subangular, medium to coarse SAND, trace clay, wet, very dense	SW	0.8	PID(B) = 5.0, (H) = 0.8
19											
20	11	20-22	Soil	11-35-33-37	68	1.6	0-2	SAA, wet, very dense		1.7	PID(B) = 8.0, (H) = 1.7
21											
22	12	22-24	Soil	26-24-24-30	48	0.9	0-2	Dark reddish brown (10R 3/4), well sorted, subangular, fine to medium SAND, trace medium gravel, trace silt, wet, dense	SP	0.9	PID(B) = 8.0, (H) = 0.9
23											
24	13	24-26	Soil	18-25-20-18	45	0.4	0-2	SAA, wet, dense		0.9	PID(B) = 5.0, (H) = 0.9
25											
26	14	26-28	Soil		0	0-2	SAA				
27											
28	15	28-30	Soil	13-14-50/4	NA	0.5	0-2	Pale reddish brown (10R 5/4), well sorted, subangular, medium SAND, trace medium gravel, trace silt, wet	SP	0	PID(B) = 0.3 ppm, (H) = 0.0 ppm
29											

NOTES:

msl = mean sea level

bgs = below ground surface

302447

**CH2MHILL****SOIL BORING LOG**

SHEET 3 OF 13

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.55 feet msl TOTAL DEPTH: 182.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: 01/02/2002 7:20:00 PM FINISH: _____
 NORTHING: 398382.657 feet EASTING: 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
30	16	30-32	Soil	49-50/5	NA	0.7	0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, medium to coarse SAND, little medium gravel, wet	SP	0.7	PID(B) = 0.7 ppm, (H) = 0.0 ppm
31											
32	17	32-34	Soil	35-44-50/5	NA		0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, coarse SAND, some fine gravel, wet	SP	0	PID(B) = 0.0, (H) = 0.0
33											
34	18	34-36	Soil	30-32-34-34	66	1	0-2	Very pale orange (10YR 8/2), well sorted, subangular, coarse SAND, some fine gravel, wet, very dense	SP	0	PID(B) = 6.0 ppm, (H) = 0.0 ppm
35											
36	19	36-38	Soil	35-39-35-30	74	1.1	0-0.5	SAA, wet, very dense		0	PID(B) = 6.0 ppm, (H) = 0.0 ppm
37							0.5-1.1	well sorted, subangular, coarse SAND, some fine gravel, wet, very dense	SP	0	PID(B) = 6.0 ppm, (H) = 0.0 ppm
38	20	38-40	Soil	17-50/5	NA	1.0	0-2	Pale yellowish brown (10YR 6/2), well sorted, subrounded, SILT and clay, some coarse sand, low plasticity, wet	MH	0	PID(B) = 0.0 ppm, (H) = 0.0 ppm
39											
40	21	40-42	Soil	35-50/5	NA	1	0-2	Grayish orange pink (10R 8/2), well sorted, subangular, medium to coarse SAND, little fine gravel, trace silt, wet	SP	0	PID(B) = 7.5 ppm, (H) = 0.0 ppm
41											
42	22	42-44	Soil	36-50/5	NA	1.0	0-2	Very pale orange (10YR 8/2), well sorted, medium to coarse SAND, some clay, wet	SC	0	PID(B) = 4.2 ppm, (H) = 0.0 ppm
43											

NOTES:

msl = mean sea level

bgs = below ground surface

302448

**CH2MHILL****SOIL BORING LOG**

SHEET 4 OF 13

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-MW14D
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Martin Aaron Proper
SURFACE ELEVATION: 6.55 feet msl **TOTAL DEPTH:** 182.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Mud Rotary **DRILLING EQUIPMENT:** Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
SAMPLING METHOD: Down-the-Hole 2-in Split Spoon **CH2M GEOLOGIST:** Winkler/Rech
START: 01/02/2002 7:20:00 PM **FINISH:**
NORTHING: 398382.657 feet **EASTING:** 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6" 6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
44	23	44-46	Soil	38-50/5	NA	1.1	0-2	Very pale orange (10YR 8/2), well sorted, subangular, medium to coarse SAND, little clay, wet	SP			
45												
46	24	46-48	Soil	28-50/5	NA	0.6	0-2	SAA, wet		0		PID(B) = 5.1 ppm, PID(H) = 0.0 ppm
47												
48	25	48-50	Soil	50/5	NA	0.7	0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, medium to coarse SAND, little clay, wet	SP	0		PID(B) = 7.5 ppm, (H) = 0.0 ppm
49												
50	26	50-52	Soil	41-50/5	NA	0.6	0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, fine GRAVEL and coarse sand, wet	GP	0		PID(B) = 7.9 ppm, (H) = 0.0
51												
52	27	52-54	Soil	50/5	NA	1.5	0-2	SAA, wet		0		PID(B) = 8.1 ppm, (H) = 0.0 ppm
53												
54	28	54-56	Soil	39-50/5	NA	0.4	0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, fine GRAVEL, some coarse sand, little medium gravel, wet	GP	0		PID(B) = 4.5 ppm, (H) = 0.0 ppm
55												
56	29	56-58	Soil	25-50/5in	NA	1.1	0-2	Yellowish gray (5Y 7/2), mottled (many, fine, distinct, dark yellowish green), well sorted, subrounded, clayey SILT, slight plasticity, wet	ML	0		PID(B) = 5.1 ppm, (H) = 0.0 ppm
57												
58												

NOTES:

msl = mean sea level

bgs = below ground surface

302449



CH2MHILL

SOIL BORING LOG

SHEET 5 OF 13

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.55 feet msl TOTAL DEPTH: 182.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: 01/02/2002 7:20:00 PM FINISH: _____
 NORTHING: 398382.657 feet EASTING: 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
59	30	58-60	Soil	26-50/6	NA	1.1	0-0.5	SAA, wet	CL			
							0.5-1.1	Yellowish gray (5Y 7/2), mottled (many, fine, distinct, dark yellowish orange), well sorted, subrounded, CLAY and silt, medium plasticity, wet				
60	32	60-62	Soil	32-50/5in		0.8	0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, medium to coarse SAND, wet	SP	0		PID(B) = 7.0 ppm, (H) = 0.0 ppm
62	33	62-64	Soil	50/5		0.4	0-2	SAA, wet		0		PID(B) = 7.0 ppm, (H) = 0.0 ppm
64	34	64-66	Soil	50/4		0.4	0-2	SAA, wet		0.5		PID(B) = 1.8 ppm, (H) = 0.5 ppm
66	35	66-68	Soil	100/4		0.4	0-2	SAA, wet		0.5		PID(B) = 4.5 ppm, (H) = 0.0 ppm
68	36	68-70	Soil	50/4		0.2	0-2	SAA, wet				
70	37	70-72	Soil	50/4		0.3	0-2	SAA, wet		0.6		PID(B) = 2.5 ppm, (H) = 0.6 ppm
72	38	72-74	Soil	50/6		0.3	0-2	SAA, wet				

NOTES:

msl = mean sea level

bgs = below ground surface

302450

**CH2MHILL****SOIL BORING LOG**

SHEET 6 OF 13

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.55 feet msl TOTAL DEPTH: 182.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: 01/02/2002 7:20:00 PM FINISH: _____
 NORTHING: 398382.657 feet EASTING: 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
73												
74	39	74-76	Soil	50/3		0.2	0-2	SAA, wet				
75												
76	40	76-78	Soil	50/4			0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, fine GRAVEL, little medium gravel, wet	GP			
77												
78	41	78-80	Soil	50/3		0	0-2	SAA, wet				
79												
80	42	80-82	Soil	24-38-50/3		0.9	0-2	Very pale orange (10YR 8/2), well sorted, subrounded, CLAY and silt, medium plasticity, wet		0		PID(B) = 11.0 ppm, (H) = 0.0 ppm
81												
82	43	82-84	Soil	75/5		0.6	0-2	Grayish orange (10YR 7/4), well sorted, subangular, coarse SAND, trace silt, wet		1		PID(B) = 1.0 ppm, (H) = 1.0 ppm
83												
84	44	84-86	Soil	50/4		0.3	0-2	SAA, wet		1		PID(B) = 3.1 ppm, (H) = 1.0 ppm
85												
86	45	86-88	Soil	50/4		0.4	0-2	SAA, wet		1		PID(B) = 4.1 ppm, (H) = 1.0 ppm
87												

NOTES:

msl = mean sea level

bgs = below ground surface

302451

**CH2MHILL****SOIL BORING LOG**

SHEET 7 OF 13

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.55 feet msl TOTAL DEPTH: 182.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: 01/02/2002 7:20:00 PM FINISH: _____
 NORTHING: 398382.657 feet EASTING: 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
88	46	88-90	Soil	50/4		0.3	0-2	SAA, wet		1.2		PID(B) = 3.2 ppm, (H) = 1.2 ppm
89												
90	47	90-92	Soil	50/3		0.3	0-2	SAA, wet		1.2		PID(B) = 5.1 ppm, (H) = 1.2 ppm
91												
92	48	92-94	Soil	50/3		0.3	0-2	SAA, wet		1		PID(B) = 4.1 ppm, (H) = 1.0 ppm
93												
94	49	94-96	Soil	50/4		0.4	0-2	SAA, wet		0.7		PID(B) = 2.2 ppm, (H) = 0.7 ppm
95												
96	50	96-98	Soil	50/4		0.3	0-2	SAA, wet		0.7		PID(B) = 4.7 ppm, (H) = 0.7 ppm
97												
98	51	98-100	Soil	21-50/4		0.8	0-2	Yellowish gray (5Y 7/2), mottled (common, fine, distinct, dark yellowish orange), well sorted, subangular, intermixed, CLAY and silt, wet	CL	0.7		PID(B) = 4.1 ppm, (H) = 0.7 ppm
99												
100	52	100-102	Soil	26-50/5		1.3	0-0.8	Yellowish gray (5Y 7/2), well sorted, subrounded, CLAY and silt, medium plasticity, wet	CL	2.2		PID(B) = 2.7 ppm, (H) = 2.2 ppm
101							0.8-1.3	Yellowish gray (5Y 7/2), well sorted, subrounded, clayey SILT, low plasticity, wet	MH	2.2		PID(B) = 2.7 ppm, (H) = 2.2 ppm

NOTES:

msl = mean sea level

bgs = below ground surface

302452

**CH2MHILL**

SOIL BORING LOG

SHEET 8 OF 13

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-MW14D
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Martin Aaron Proper
SURFACE ELEVATION: 6.55 feet msl **TOTAL DEPTH:** 182.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Mud Rotary **DRILLING EQUIPMENT:** Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
SAMPLING METHOD: Down-the-Hole 2-in Split Spoon **CH2M GEOLOGIST:** Winkler/Rech
START: 01/02/2002 7:20:00 PM **FINISH:**
NORTHING: 398382.657 feet **EASTING:** 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
102	54	102-104	Soil	29-50/6		0	0-2	No Recovery				
103												
104	55	104-106	Soil	46-50/6		0.9	0-2	Yellowish gray (5Y 7/2), well sorted, subrounded, clayey SILT, some fine sand, wet	ML	2.4		PID(B) = 4.7 ppm, (H) = 2.4 ppm
105												
106	56	106-108	Soil	38-50/4		0.6	0-2	SAA, wet		2.4		PID(B) = 5.1 ppm, (H) 2.4 ppm
107												
108	57	108-110	Soil	50/6		0.6	0-2	Yellowish gray (5Y 7/2), well sorted, subrounded, fine SAND, some clay, wet (NOTE: Layered with 3in layers of 5Y 7/2, not mottled, well sorted, subrounded, clay, (CL), and silt, thread dia. 1/16in.)	SC			
109												
110	58	110-112	Soil	32-50/4		1.3	0-0.5	Yellowish gray (5Y 7/2), well sorted, subrounded, CLAY and silt, medium plasticity, wet	CL	1.9		PID(B) = 5.2 ppm, PID(H) = 1.9 ppm; Driller noted solid clay from 110-112ft from rig behavior
111							0.5-1.3	Yellowish gray (5Y 7/2), mottled (few, fine, distinct, dark yellowish orange), well sorted, subrounded, CLAY, high plasticity, wet (NOTE: Driller noted solid clay from 110-112ft from rig behavior)	CH	1.9		
112	60	112-114	Soil	23-50-60/6		1.0	0-2	Yellowish gray (5Y 7/2), well sorted, subrounded, fine SAND, little clay, wet	SC	1.9		PID(B) = 5.7 ppm, (H) = 1.9 ppm
113												
114	61	114-116	Soil	29/6	NA	1.0	0-2	SAA, wet (NOTE: Clay lense 3in at 114ft, same clay as 110.5ft - 113ft)		1.9		
115												
116												

NOTES:

msl = mean sea level

bgs = below ground surface

302453

**CH2MHILL****SOIL BORING LOG**

SHEET 9 OF 13

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.55 feet msl TOTAL DEPTH: 182.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: 01/02/2002 7:20:00 PM FINISH: _____
 NORTHING: 398382.657 feet EASTING: 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
117	62	116-118	Soil	50/5in	NA	0.2	0-0.2	SAA, wet				
118	63	118-120	Soil	50/5in	NA	0.1	0-0.1	SAA, wet				
120	64	120-122	Soil	15-20-50/5in	NA	1.9	0-1.9	Yellowish gray (5Y 7/2), mottled (common, fine, distinct, dark yellowish orange), very well sorted, subrounded, intermixed, CLAY and silt, trace fine sand, medium plasticity, wet (NOTE: At 121.4ft layer of clayey sand.)	CL	1.9		PID(B) = 5.1 ppm, PID(H) = 1.9 ppm
122	65	122-124	Soil	36-76-50/1in	NA	1.5	0-0.5	Brownish gray (5YR 4/1), well sorted, subrounded, silty CLAY, high plasticity, wet	CH			
123							0.5-1.5	Pinkish gray (5YR 8/1), well sorted, subrounded, CLAY and silt, medium plasticity, wet	CL			
124	67	124-126	Soil	72/6in	NA	0.7	0-0.7	Brownish gray (5YR 4/1), well sorted, subrounded, fine SAND, some silt, wet	SM	1.6		PID(B) = 1.6 ppm, PID(H) = 1.6 ppm
126	68	126-128	Soil	55/6in	NA	0.6	0-0.6	SAA, wet		1.6		PID(B) = 1.6 ppm, PID(H) = 1.6 ppm; 3in layer of burned wood
128	69	128-130	Soil	35-50/2in	NA	0.6	0-0.6	SAA, wet		1.6		PID(B) = 1.6 ppm, PID(H) = 1.6 ppm
130	70	130-132	Soil	50/6in	NA	0.4	0-0.4	SAA, wet		2		PID(B) = 2.0 ppm, PID(H) = 2.0 ppm

NOTES:

msl = mean sea level

bgs = below ground surface

302454

**CH2MHILL****SOIL BORING LOG**

SHEET 10 OF 13

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.55 feet msl TOTAL DEPTH: 182.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: 01/02/2002 7:20:00 PM FINISH: _____
 NORTHING: 398382.657 feet EASTING: 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
131												
132	71	132-134	Soil	32-50/5in	NA	1.1	0-1.1	SAA, wet		2.1		PID(B) = 3.0 ppm, PID(H) = 2.1 ppm
133												
134	72	134-136	Soil	42-50/5in	NA	1.1	0-0.9	Brownish gray (5YR 4/1), well sorted, subrounded, SILT, slight plasticity, wet	ML	1.9		PID(B) = 3.0 ppm, PID(H) = 1.9 ppm
135							0.9-1.1	Brownish gray (5YR 4/1), well sorted, subrounded, silty CLAY, high plasticity, wet	CH			
136	74	136-138	Soil	50/6in	NA	0.8	0-0.8	SAA, wet				
137												
138	75	138-140	Soil	20-30-50/6in	NA	1.7	0-1.7	Very pale orange (10YR 8/2), well sorted, subrounded, CLAY and silt, medium plasticity, wet, laminated (NOTE: Laminated every 2in - 3in with fine sand and silt)	CL	2		PID(B) = 2.0 ppm, PID(H) = 2.0 ppm
139												
140	76	140-142	Soil	50/6in	NA	0.5	0-0.5	Very pale orange (10YR 8/2), mottled (common, fine, moderate orange pink), well sorted, subrounded, SILT, some fine sand, non-plastic, wet	ML	2		PID(B) = 2.0 ppm, PID(H) = 2.0 ppm
141												
142	77	142-144	Soil	70/5in	NA	0.3	0-0.3	Very pale orange (10YR 8/2), well sorted, subrounded, fine SAND, some silt, trace clay, wet	SM	2		PID(B) = 2.0 ppm, PID(H) = 2.0 ppm
143												
144	78	144-146	Soil	48-50/6in	NA	1.0	0-1	Very pale orange (10YR 8/2), mottled (common, fine, distinct, dark yellowish orange), well sorted, subrounded, intermixed, CLAY and silt, medium	CL			
145												

NOTES:

msl = mean sea level

bgs = below ground surface

302455

**CH2MHILL****SOIL BORING LOG**

SHEET 11 OF 13

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.55 feet msl TOTAL DEPTH: 182.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: 01/02/2002 7:20:00 PM FINISH: _____
 NORTHING: 398382.657 feet EASTING: 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
146	79	146-148	Soil	70/6in	NA	0.4	0-0.4	plasticity, wet	SP	2		PID(B) = 2.0 ppm, PID(H) = 2.0 ppm
147								Dark yellowish orange (10YR 6/6), well sorted, subangular, coarse SAND, little silt, some fine gravel, wet				
148	80	148-150	Soil	70/6in	NA		0-2	SAA, wet				PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
149												
150	81	150-152	Soil	50/3in	NA	2.8	0-2	Yellowish gray (5Y 8/1), well sorted, subrounded, fine GRAVEL and silt, wet, very dense	GM	0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
151												
152	82	152-154	Soil	50/4in	NA	0.3	0-0.3	SAA, wet, very dense		0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
153												
154	83	154-156	Soil	50/4in		0.7	0-0.7	White (N9), very well sorted, rounded, fine SAND, trace silt, wet, very loose	SP	0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
155												
156	84	156-158	Soil	50/3in		0.3	0-0.3	Yellowish gray (5Y 8/1), well sorted, subrounded, coarse SAND, trace silt, wet, very dense	SM	0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
157												
158	85	158-160	Soil	50/4in		0.3	0-0.3	Yellowish gray (5Y 8/1), well sorted, subrounded, coarse SAND, trace silt, trace fine gravel, wet, very dense	SM	0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
159												

NOTES:

msl = mean sea level

bgs = below ground surface

302456

**CH2MHILL****SOIL BORING LOG**

SHEET 12 OF 13

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.55 feet msl TOTAL DEPTH: 182.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech
 START: 01/02/2002 7:20:00 PM FINISH: _____
 NORTHING: 398382.657 feet EASTING: 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
160	86	160-162	Soil	50/3in		0.3	0-0.3	SAA		0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
161												
162	87	162-164	Soil	50/5in		0.3	0-0.3	SAA		0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
163												
164	88	164-166	Soil	50/5in		0.3	0-0.3	Dark yellowish orange (10YR 6/6), well sorted, subrounded, coarse SAND, little fine gravel, trace silt, wet, very dense		0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
165												
166	89	166-168	Soil	50/3in	NA	0	0-0	No Recovery				
167												
168	90	168-170	Soil	50/2in	NA	0.2	0-0.2	Yellowish gray (5Y 8/1), moderately sorted, subrounded, medium GRAVEL, some coarse sand, trace coarse gravel, wet, very dense		0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
169												
170	91	170-172	Soil	50/2in	NA	0.2	0-0.2	Very light grey (N8), very poorly sorted, subrounded, silty CLAY, some medium gravel, low plasticity, wet, very dense	GC	0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
171												
172	92	172-174	Soil	50/5in	NA	0.3	0-0.3	Yellowish gray (5Y 8/1), well sorted, subrounded, coarse SAND, some fine to medium gravel, trace silt, wet, very dense	GM	0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
173												
174												

NOTES:

msl = mean sea level

bgs = below ground surface

302457

**CH2MHILL**

SOIL BORING LOG

SHEET 13 OF 13

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW14D

PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper

SURFACE ELEVATION: 6.55 feet msl TOTAL DEPTH: 182.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Mud Rotary DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit

SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Winkler/Rech

START: 01/02/2002 7:20:00 PM FINISH: _____

NORTHING: 398382.657 feet EASTING: 318539.014 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
175	93	174-176	Soil	50/2in	NA	0	0-0	No Recovery				No recovery
176	94	176-178	Soil	50/5in	NA	0.2	0-0.2	Yellowish gray (5Y 8/1), moderately sorted, subrounded, medium SAND, some fine gravel, trace silt, wet, very dense	SM	0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
178	95	178-180	Soil	50/2in	NA	0.3	0-0.3	Yellowish gray (5Y 8/1), poorly sorted, medium SAND and medium gravel, trace silt, wet, very dense	GM	0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
180	96	180-182	Soil	50/5in	NA	0.2	0-0.2	SAA		0		PID(B) = 0.0 ppm, PID(H) = 0.0 ppm
181												
182												

NOTES:

msl = mean sea level

bgs = below ground surface

302458

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW15S
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.67 feet msl TOTAL DEPTH: 19.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/29/2001 11:00:00 AM FINISH: 10/29/2001 12:00:00 PM
 NORTHING: 398518.442 feet EASTING: 318524.696 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-2	Soil	5-8-12-8	20	1 0-2	Moderate yellowish brown (10YR 5/4), poorly sorted, subrounded, fine SAND and fine gravel, dry	SW	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=20 cpm, (H)=20 cpm
1											
2	2	2-4	Soil	9-10-9-9	19	.75 0-2	SAA		1.2		PID(B)=0.5 ppm, (H)=1.2 ppm; RAD(B)=20 cpm, (H)=20 cpm
3											
4	3	4-6	Soil		1.08	0-2	SAA		1.2		PID(B)=0.5 ppm, (H)=1.2 ppm; RAD(B)=40 cpm, (H)=40 cpm
5											
6	4	6-8	Soil	6-8-7-6	15	.4 0-2	Pale yellowish brown (10YR 6/2), poorly sorted, subangular, medium SAND and fine gravel, dry	SW	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
7											
8	5	8-10	Soil	8-20-12-3	32	.33 0-2	SAA, wet		1.2		PID(B)=0.5 ppm, (H)=1.2 ppm; RAD(B)=40 cpm, (H)=40 cpm
9											

NOTES:

msl = mean sea level

bgs = below ground surface

302459

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW15S
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.67 feet msl TOTAL DEPTH: 19.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/29/2001 11:00:00 AM FINISH: 10/29/2001 12:00:00 PM
 NORTHING: 398518.442 feet EASTING: 318524.696 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
10	6	10-12	Soil	1-1-0-1	1	1	0-2	Olive gray (5Y 3/2), well sorted, rounded, CLAY and silt, medium plasticity, wet (NOTE: 10 - 12ft trace decomposing wood)	CL	1.2		PID(B)=0.5 ppm, (H)=1.2 ppm; RAD(B)=40 cpm, (H)=40 cpm
11												
12	7	12-14	Soil			2	0-1	Olive gray (5Y 4/1), well sorted, rounded, fine SAND, wet	SP	1		PID(B)=0.5 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
13							1-1.5	Black (N1), well sorted, rounded, SILT, non-plastic, wet (NOTE: roots and other organic material visible)	ML	1		PID(B)=0.5 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
							1.5-2	Black (N1), well sorted, rounded, CLAY and silt, medium plasticity	CH	1		PID(B)=0.5 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
14	8	14-16	Soil	2-1-2-4	3	2.5	0-0.6	Light olive gray (5Y 5/2), well sorted, rounded, fine SAND, wet	SP	2		PID(B)=1.0 ppm, (H)=2.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
15							0.6-2	Black (N1), well sorted, rounded, clayey SILT, slight plasticity, wet	MH	2		PID(B)=1.0 ppm, (H)=2.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
16	9	16-18	Soil	4-2-2-4	4		0-0.5	Medium gray (N5), well sorted, subangular, medium SAND, wet	SP	2		PID(B)=1.0 ppm, (H)=2.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
17							0.5-1	Moderate yellowish brown (10YR 5/4), well sorted, rounded, SILT, low plasticity	ML	2		PID(B)=1.0 ppm, (H)=2.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
18	10	18-19	Soil				0-1	SAA		2		PID(B)=1.0 ppm, (H)=2.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
19												

NOTES:

msl = mean sea level

bgs = below ground surface

302460

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 9

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW15M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.15 feet msl TOTAL DEPTH: 74.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 10/31/2001 7:45:00 AM FINISH: 11/01/2001 1:34:00 PM
 NORTHING: 398510.341 feet EASTING: 318537.69 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

16								NOTE: Blind drill to 18 ft bgs. See boring MA-MW15S.				
17												
18	1	18-20	Soil	2-3-2-4	5	2	0-1	Dark yellowish brown (10YR 4/2), well sorted, rounded, clayey SILT, low plasticity, wet, thinly bedded (NOTE: 3in of 10YR 4/2 find sand (SP))	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
19							1-2	Pale brown (5YR 5/2), well sorted, rounded, CLAY and silt, medium plasticity, wet	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
20	2	20-22	Soil	2-2-2-2	4	1	0-0.5	Moderate yellowish brown (10YR 5/4), well sorted, rounded, intermixed, CLAY and silt, medium plasticity, wet, soft (NOTE: intermixed with 5YR 5/2)	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
21							0.5-1	Light olive gray (5Y 5/2), well sorted, rounded, CLAY and silt, medium plasticity, thinly bedded (NOTE: thinly bedded with fine silty sand)	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
22	3	22-24	Soil	2-4-5-8	9	1.3	0-1	Light olive gray (5Y 5/2), mottled (many, fine, distinct, dark yellowish orange), well sorted, subrounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
23												

NOTES:

msl = mean sea level

bgs = below ground surface

302461

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 9

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW15M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.15 feet msl TOTAL DEPTH: 74.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 10/31/2001 7:45:00 AM FINISH: 11/01/2001 1:34:00 PM
 NORTHING: 398510.341 feet EASTING: 318537.69 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

23							1-1.3	Pale yellowish brown (10YR 6/2), mottled (many, fine, very pale orange), moderately sorted, subangular, fine SAND, wet	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
24	4	24-26	Soil	6-10-12-13	22	2	0-1	Grayish brown (5YR 3/2), well sorted, CLAY and silt, wet, thinly bedded (NOTE: 24ft 8in-25ft 10YR 5/2 silty sand (SM))	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
25							1-1.5	Moderate brown (5YR 4/4), well sorted, rounded, CLAY and silt, wet	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
26	5	26-28	Soil	14-13-10-9	23	1.75	-0.5-0	Dark yellowish orange (10YR 6/6), mottled (many, fine, faint, dark yellowish orange), poorly sorted, subangular, medium SAND, some fine gravel	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
27							0-1.75	Moderate yellowish brown (10YR 5/4), mottled (many, fine, faint, pale yellowish orange), well sorted, subangular, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
28	6	28-30	Soil	2-3-3-7	6	1	0-1	SAA, trace medium gravel (NOTE: with trace medium gravel)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
29												
30												

NOTES:

msl = mean sea level

bgs = below ground surface

302462



CH2MHILL

SOIL BORING LOG

SHEET 3 OF 9

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW15M

PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper

SURFACE ELEVATION: 7.15 feet msl TOTAL DEPTH: 74.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA

SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler

START: 10/31/2001 7:45:00 AM FINISH: 11/01/2001 1:34:00 PM

NORTHING: 398510.341 feet EASTING: 318537.69 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
30	7	30-32	Soil	3-8-14-16	22	2	0-0.5	Brownish gray (5YR 4/1), well sorted, rounded, CLAY and silt, medium plasticity	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							0.5-1	Moderate yellowish brown (10YR 5/4), mottled (many, fine, faint, moderate yellowish brown), well sorted, subangular, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
31							1-1.5	Moderate yellowish brown (10YR 5/4), well sorted, rounded, intermixed, CLAY and silt, medium plasticity, wet, thinly bedded (NOTE: mixed with 5YR 5/2)	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							1.5-2	Dark yellowish orange (10YR 6/6), mottled (many, fine, faint, very pale orange), poorly sorted, subrounded, medium SAND, some fine gravel, wet	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
32	8	32-34	Soil	21-20-21-6	41		0-1	Light olive gray (5Y 5/2), mottled (many, fine, distinct, dark yellowish orange), well sorted, subrounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
33							1-1.5	Pale yellowish brown (10YR 6/2), mottled (many, fine, very pale orange), moderately sorted, subangular, fine SAND, some fine gravel, wet	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							1.5-2	Moderate yellow (5Y 7/6), well sorted, subangular, medium SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
34	9	34-36	Soil	9-12-15-20	27	2	0-1.5	Light olive gray (5Y 5/2), mottled (many, fine, distinct, dark yellowish orange), well sorted, subrounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
35							1.5-2	Light greenish gray (5GY 8/1), mottled (common, fine, distinct, light red), well sorted, subrounded, medium SAND, some clay, wet	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
36	10	36-38	Soil	20-24-39-32	63	2	0-1	Pale yellowish brown (10YR 6/2), mottled (common, fine, faint, very pale orange), moderately sorted, medium SAND, some coarse sand, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
37												

NOTES:

msl = mean sea level

bgs = below ground surface

302463

**CH2MHILL****SOIL BORING LOG**

SHEET 4 OF 9

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW15M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.15 feet msl TOTAL DEPTH: 74.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 10/31/2001 7:45:00 AM FINISH: 11/01/2001 1:34:00 PM
 NORTHING: 398510.341 feet EASTING: 318537.69 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
37	11	38-40	Soil	14-22-29-38	51		1-1.5	Light olive gray (5Y 5/2), mottled (many, fine, distinct, dark yellowish orange), well sorted, subrounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							1.5-2	Light greenish gray (5GY 8/1), mottled (common, fine, distinct, light red), well sorted, subrounded, medium SAND, some clay, wet	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
38							0-0.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							0.5-1	Pale yellowish brown (10YR 6/2), mottled (common, fine, faint, very pale orange); moderately sorted, medium SAND, some coarse sand, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
39							1.5-2	Yellowish gray (5Y 7/2), mottled (common, fine, faint, dark yellowish orange), well sorted, subrounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
40	12	40-42	Soil	12-17-50	67	2	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							1-1.5	SAA, fine SAND	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							1.5-2	Dark yellowish orange (10YR 6/6), well sorted, rounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
42	13	42-44	Soil	22-27-33-21	60	1.5	0-1.5	Yellowish gray (5Y 7/2), mottled (common, fine, faint, dark yellowish orange), well sorted, subrounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
43												

NOTES:

msl = mean sea level

bgs = below ground surface

302464

**CH2MHILL****SOIL BORING LOG**

SHEET 5 OF 9

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW15M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.15 feet msl TOTAL DEPTH: 74.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 10/31/2001 7:45:00 AM FINISH: 11/01/2001 1:34:00 PM
 NORTHING: 398510.341 feet EASTING: 318537.69 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTILING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

45	14	44-46	Soil			2	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
46	15	46-48	Soil	13-17-21-27	38	2	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
48	16	48-50	Soil	10-22-50	72	2	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
49							1-2	Dark yellowish orange (10YR 6/6), well sorted, subrounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
50	17	50-52	Soil	10-22-33-34	55	1.7	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302465

**CH2MHILL****SOIL BORING LOG**

SHEET 6 OF 9

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW15M

PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper

SURFACE ELEVATION: 7.15 feet msl TOTAL DEPTH: 74.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA

SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler

START: 10/31/2001 7:45:00 AM FINISH: 11/01/2001 1:34:00 PM

NORTHING: 398510.341 feet EASTING: 318537.69 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTILING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

52	18	52-54	Soil	39-41-50	91	1.25	0-2	SAA	0	PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm		
53												
54	19	54-56	Soil	10-22-50	72	1.25	0-2	SAA	0	PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm		
55												
56	20	56-58	Soil	48-50		.75	0-0.5	SAA	0	PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm		
57												
58												

NOTES:

msl = mean sea level
bgs = below ground surface

302466

**CH2MHILL****SOIL BORING LOG**

SHEET 7 OF 9

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW15M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.15 feet msl TOTAL DEPTH: 74.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 10/31/2001 7:45:00 AM FINISH: 11/01/2001 1:34:00 PM
 NORTHING: 398510.341 feet EASTING: 318537.69 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
58	21	58-60	Soil	10-14-38-50	52	1.7	0-1.7	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
59												
60	22	60-62	Soil	25-38-35-43	73	2	0-0.5	Grayish orange (10YR 7/4), well sorted, subangular, medium SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							0.5-1	SAA, fine SAND		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
61							1-2	Dark yellowish orange (10YR 6/6), well sorted, subrounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
62												
63												
64	23	64-66	Soil	21-26-32-38	58		0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
65												

NOTES:

msl = mean sea level

bgs = below ground surface

302467

**CH2MHILL**

SOIL BORING LOG

SHEET 8 OF 9

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW15M

PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper

SURFACE ELEVATION: 7.15 feet msl TOTAL DEPTH: 74.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA

SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler

START: 10/31/2001 7:45:00 AM FINISH: 11/01/2001 1:34:00 PM

NORTHING: 398510.341 feet EASTING: 318537.69 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

66	24	66-68	Soil	3-9-14-40	23	2	0-1	SAA, medium SAND		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
67							1-1.5	SAA, fine SAND		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							1.5-2	SAA, medium SAND		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
68	25	68-70	Soil	14-18-26-31	44		0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
69												
70	26	70-72	Soil	17-33-43-50	76		0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
71												
72												

NOTES:

msl = mean sea level

bgs = below ground surface

302468

**CH2MHILL****SOIL BORING LOG**

SHEET 9 OF 9

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-MW15M
PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
SURFACE ELEVATION: 7.15 feet msl TOTAL DEPTH: 74.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
START: 10/31/2001 7:45:00 AM FINISH: 11/01/2001 1:34:00 PM
NORTHING: 398510.341 feet EASTING: 318537.69 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
72	27	72-74	Soil	27-50		0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
73											
74											

NOTES:

msl = mean sea level

bgs = below ground surface

302469



CH2MHILL

SOIL BORING LOG

SHEET 1 OF 2

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW16S

PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper

SURFACE ELEVATION: 7.69 feet msl TOTAL DEPTH: 18.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA

SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Wojciech Winkler

START: 10/29/2001 2:30:00 PM FINISH: 10/29/2001 5:00:00 PM

NORTHING: 398718.727 feet EASTING: 318788.316 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-2	Soil	7-16-13-11	29 .5	0-0.5	Grayish brown (5YR 3/2), well sorted, rounded, fine SAND and silt, dry	SM	0.2		PID(B)=0.2 ppm, (H)=0.2 ppm; RAD(B)=20 cpm, (H)=20 cpm
1											
2	2	2-4	Soil	6-4-3-2	7 1.3	0-0.5	Black (N1), mottled (many, fine, prominent, light gray), poorly sorted, subrounded, fine SAND and silt and fine gravel, dry	SM	0.2		PID(B)=0.2 ppm, (H)=0.2 ppm; RAD(B)=40 cpm, (H)=40 cpm
3											
4	3	4-6	Soil	5-5-3-3	8 1.3	0-1.5	Dark yellowish orange (10YR 6/6), well sorted, rounded, fine SAND, moist (NOTE: layered (3in) with 10R 6/6, well sorted sand (SP) moist)	SP	0.2		PID(B)=0.2 ppm, (H)=0.2 ppm; RAD(B)=40 cpm, (H)=40 cpm
5											
6	4	6-8	Soil	3-2-3-3	5 1	0-0.5	Dark gray (N3), well sorted, rounded, fine SAND and silt, trace fine gravel, moist	SM	1.2		PID(B)=0.2 ppm, (H)=1.2 ppm; RAD(B)=40 cpm, (H)=40 cpm
7						0.5-1	Black (N1), moderately sorted, coarse SAND, trace fine gravel, wet	SW	1.2		PID(B)=0.2 ppm, (H)=1.2 ppm; RAD(B)=40 cpm, (H)=40 cpm
8											
9											

NOTES:

msl = mean sea level

bgs = below ground surface

302470

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW16S
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.69 feet msl TOTAL DEPTH: 18.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/29/2001 2:30:00 PM FINISH: 10/29/2001 5:00:00 PM
 NORTHING: 398718.727 feet EASTING: 318788.316 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

10	5	10-12	Soil		1	0-1		Black (N1), well sorted, rounded, SILT, wet, soft (NOTE: petroleum like odor and fibrous organic like material from 10ft-11ft)	ML	10		PID(B)=0.5 ppm, (H)=10 ppm; RAD(B)=40 cpm, (H)=40 cpm
11												
12	6	12-14	Soil		1.08	0-1		Dark gray (N3), well sorted, rounded, CLAY and silt, high plasticity, wet, soft	CH	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
13												
14	7	14-16	Soil	WH	WH	1.75	0-1.6	SAA		2		PID(B)=0.5 ppm, (H)=2.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
15												
16	8	16-18	Soil	0-0-0-2	0	1.5	0-1.5	SAA		0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
17												
18												

NOTES:

msl = mean sea level

bgs = below ground surface

302471

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 8

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW17M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Corner of Broadway and Everett Streets
 SURFACE ELEVATION: 7.33 feet msl TOTAL DEPTH: 58.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/08/2001 7:15:00 AM FINISH: 11/08/2001 11:30:00 AM
 NORTHING: 398779.556 feet EASTING: 318434.699 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
16								NOTE: Blind drill to 18 ft bgs. See boring MA-MW17S.				
17												
18	1	18-20	Soil	5-10-8-6	18	1.67	0-0.75	Black (N1), moderately sorted, subangular, fine to coarse SAND and silt, moist, medium dense	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0.25-0.8	BRICK (NOTE: brick fragments)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
19							0.8-1.6	Yellowish gray (5Y 7/2), mottled (common, prominent, yellowish gray), well sorted, subrounded, medium SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
20	2	20-22	Soil	6-5-3-3	8	1.83	0-1.8	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
21												

NOTES:

msl = mean sea level

bgs = below ground surface

302472

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 8

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-MW17M
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Corner of Broadway and Everett Streets
SURFACE ELEVATION: 7.33 feet msl **TOTAL DEPTH:** 58.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Hollow Stem Auger **DRILLING EQUIPMENT:** CME 85 Rig 4 1/4in I.D./8in O.D. HSA
SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer **CH2M GEOLOGIST:** Mark Eshbaugh
START: 11/08/2001 7:15:00 AM **FINISH:** 11/08/2001 11:30:00 AM
NORTHING: 398779.556 feet **EASTING:** 318434.699 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
22	3	22-24	Soil	2-3-6-11	9	2	0-0.8	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
23							0.8-1.6	Yellowish gray (5Y 7/2), mottled (common, fine, distinct, grayish olive), well sorted, rounded, fine SAND and silt, moist, loose	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
							1.6-2	Yellowish gray (5Y 7/2), mottled (common, prominent, yellowish gray), well sorted, rounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
24	4	24-26	Soil	2-3-2-4	5	.33	0-0.3	SAA, moderately graded, well rounded, gravel, wet, loose	GP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
25												
26	5	26-28	Soil	11-14-21-22	35	1	0-0.3	Yellowish gray (5Y 7/2), mottled (common, prominent, yellowish gray), well sorted, subrounded, medium SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0.3-1	Dark yellowish orange (10YR 6/6), mottled (common, coarse, prominent, dark yellowish orange), well sorted, subrounded, fine SAND, wet, dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
27												

NOTES:

msl = mean sea level

bgs = below ground surface

302473

**CH2MHILL****SOIL BORING LOG**

SHEET 3 OF 8

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW17M

PROJECT NAME: EPA-Martin Aaron LOCATION: Corner of Broadway and Everett Streets

SURFACE ELEVATION: 7.33 feet msl TOTAL DEPTH: 58.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA

SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh

START: 11/08/2001 7:15:00 AM FINISH: 11/08/2001 11:30:00 AM

NORTHING: 398779.556 feet EASTING: 318434.699 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
28	6	28-30	Soil	14-23-20-18	43	0.67	0-0.6	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
29												
30	7	30-32	Soil	8-10-14-17	24	1.3	0-0.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
31												
32	8	32-34	Soil	14-23-33-38	56	1.3	0-1.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302474

**CH2MHILL****SOIL BORING LOG**

SHEET 4 OF 8

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW17M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Corner of Broadway and Everett Streets
 SURFACE ELEVATION: 7.33 feet msl TOTAL DEPTH: 58.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/08/2001 7:15:00 AM FINISH: 11/08/2001 11:30:00 AM
 NORTHING: 398779.556 feet EASTING: 318434.699 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
33												
34	9	34-36	Soil	21-30-30-23	60	1	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
35												
36	10	36-38	Soil	8-14-27-34	41	1.83	0-1.8	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
37												
38	11	38-40	Soil	8-33-40-50	73	1.25	0-1.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302475

**CH2MHILL****SOIL BORING LOG**

SHEET 5 OF 8

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW17M

PROJECT NAME: EPA-Martin Aaron LOCATION: Corner of Broadway and Everett Streets

SURFACE ELEVATION: 7.33 feet msl TOTAL DEPTH: 58.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA

SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh

START: 11/08/2001 7:15:00 AM FINISH: 11/08/2001 11:30:00 AM

NORTHING: 398779.556 feet EASTING: 318434.699 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
39											
40	12	40-42	Soil	20-23-50-50	73	1.33	0-1.5	SAA	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
41											
42	13	42-44	Soil	48-50	1.3	0-1.5	SAA	0			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
43											
44	14	44-46	Soil	20-50	0.5	0-0.5	SAA, Moderate brown (5YR 4/4)	0			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm,

NOTES:

msl = mean sea level

bgs = below ground surface

302476

**CH2MHILL**

SOIL BORING LOG

SHEET 6 OF 8

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW17M

PROJECT NAME: EPA-Martin Aaron LOCATION: Corner of Broadway and Everett Streets

SURFACE ELEVATION: 7.33 feet msl TOTAL DEPTH: 58.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA

SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh

START: 11/08/2001 7:15:00 AM FINISH: 11/08/2001 11:30:00 AM

NORTHING: 398779.556 feet EASTING: 318434.699 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
45												(H)=40 cpm
46	15	46-48	Soil	7-49-50	99	1	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
47												
48	16	48-50	Soil	34-50-50	100	1	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
49												

NOTES:

msl = mean sea level

bgs = below ground surface

302477

**CH2MHILL****SOIL BORING LOG**

SHEET 7 OF 8

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW17M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Corner of Broadway and Everett Streets
 SURFACE ELEVATION: 7.33 feet msl TOTAL DEPTH: 58.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/08/2001 7:15:00 AM FINISH: 11/08/2001 11:30:00 AM
 NORTHING: 398779.556 feet EASTING: 318434.699 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
50	17	50-52	Soil	26-38-50	88	2	0-2	Dark yellowish orange (10YR 6/6), mottled (common, coarse, prominent, dark yellowish orange), well sorted, subrounded, fine SAND, wet, dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
51												
52	18	52-54	Soil	25-35-34-28	69	2	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
53												
54	19	54-56	Soil	9-12-18-20	30	1.67	0-1.75	Dark yellowish orange (10YR 6/6), mottled (common, coarse, distinct, dark yellowish orange), well sorted, rounded, fine to coarse SAND, wet, medium dense		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
55												

NOTES:

msl = mean sea level

bgs = below ground surface

302478

**CH2MHILL****SOIL BORING LOG**

SHEET 8 OF 8

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW17M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Corner of Broadway and Everett Streets
 SURFACE ELEVATION: 7.33 feet msl TOTAL DEPTH: 58.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/08/2001 7:15:00 AM FINISH: 11/08/2001 11:30:00 AM
 NORTHING: 398779.556 feet EASTING: 318434.699 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
56	20	56-58	Soil	20-30-50	80	1	1.75-2		ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0-0.3	Yellowish gray (5Y 7/2), mottled (common, fine, prominent, dark greenish yellow), well sorted, rounded, SILT and clay, moist, stiff, laminated				
							0.3-1	SAA				
57								Yellowish gray (5Y 7/2), mottled (common, fine, distinct, moderate yellow), well sorted, rounded, intermixed, SILT, trace fine to coarse sand, moist, hard	ML	0		
58												

NOTES:

msl = mean sea level

bgs = below ground surface

302479

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18S
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett Street
 SURFACE ELEVATION: 7.44 feet msl TOTAL DEPTH: 20.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Wojciech Winkler
 START: 11/06/2001 7:35:00 AM FINISH: 11/05/2001 10:30:00 AM
 NORTHING: 398827.975 feet EASTING: 318590.588 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-2	Soil	14-22-12-10	34	1	0-1	Black (N1), moderately sorted, subangular, medium SAND and silt, dry	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
1												
2	2	2-4	Soil	5-6-1-2	7	.8	0-0.8	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
3												
4	3	4-6	Soil	4-2-2-3	4	1.58	0-0.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
5							0.5-1.5	Dark gray (N3), mottled (many, fine, faint, dark gray), well sorted, angular, SILT, trace medium sand, dry	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
6	4	6-8	Soil	3-21-2	23	1	0-1	Dusky yellow green (5GY 5/2), well sorted, rounded, medium SAND and silt, non-plastic, wet	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
7												
8	5	8-10	Soil	WH-1-1-1	2	.3	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
9												
10	6	10-12	Soil	WH-1-0-1	1	1	0-2	Dark gray (N3), poorly sorted, subangular, fine SAND, some clay, some fine gravel, wet	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm

NOTES: Driller augered to 20 feet bgs, set well from 8 feet to 18 feet bgs. Bottom of boring at 20 feet bgs.

msl = mean sea level

bgs = below ground surface

302480

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18S
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett Street
 SURFACE ELEVATION: 7.44 feet msl TOTAL DEPTH: 20.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Wojciech Winkler
 START: 11/06/2001 7:35:00 AM FINISH: 11/05/2001 10:30:00 AM
 NORTHING: 398827.975 feet EASTING: 318590.588 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/ID READING (PPM)	OTHER TESTING	COMMENTS
11												
12	7	12-14	Soil	1-1-1-1	2	2	0-2	Dark gray (N3), well sorted, rounded, SILT and clay, low plasticity, wet	MH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
13												
14	8	14-16	Soil	WH-WH-1-2		1.3	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
15												
16	9	16-18	Soil	3-4-5-5	9	1.6	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
17							1-1.5	Yellowish gray (5Y 7/2), well sorted, rounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
18	10	18-20	Soil	3-1-2-2	3	.3	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
19												
20												

NOTES: Driller augered to 20 feet bgs, set well from 8 feet to 18 feet bgs. Bottom of boring at 20 feet bgs.

msl = mean sea level
 bgs = below ground surface

302481

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 5

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett Street
 SURFACE ELEVATION: 7.62 feet msl TOTAL DEPTH: 48.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/05/2001 6:30:00 AM FINISH: 11/09/2001 9:30:00 AM
 NORTHING: 398829.866 feet EASTING: 318601.912 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

18								NOTE: Blind drill to 20 ft bgs. See boring MA-MW18S.				
19												
20	1	20-22	Soil	2-2-1-2	3	2	0-0.6	Black (N1), moderately sorted, subrounded, fine SAND and fine gravel, wet, very loose	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							0.6-1.1	Black (N1), well sorted, rounded, SILT, moist, very loose (NOTE: high organic content)	MH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
21							1.1-2	Medium dark gray (N4), no mottling, well sorted, rounded, fine to coarse SAND and silt, wet, very loose	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
22	2	22-24	Soil	3-3-14-15	17	1.08	0-1.1	SAA (NOTE: gravel in very bottom of spoon)		0		PID(B)=0.0 ppm (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
23												
24	3	24-26	Soil	5-19-15-25	34	.83	0-0.9	Moderate yellowish brown (10YR 5/4), mottled (common, coarse, distinct, moderate yellowish brown), poorly sorted, medium to coarse SAND and fine to medium gravel, wet, medium dense	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302482

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 5

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett Street
 SURFACE ELEVATION: 7.62 feet msl TOTAL DEPTH: 48.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/05/2001 6:30:00 AM FINISH: 11/09/2001 9:30:00 AM
 NORTHING: 398829.866 feet EASTING: 318601.912 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

25												
26	4	26-28	Soil	30-25-21-25	46	.5	0-1.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
27												
28	5	28-30	Soil	10-10-10-12	20	.75	0-0.5	Medium dark gray (N4), well sorted, rounded, medium to coarse SAND and silt, wet, very loose	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
29												
30	6	30-32	Soil	7-7-6-5	13	1	0-0.3 0.3-2	Medium dark gray (N4), mottled (common, coarse, prominent, medium dark gray), poorly sorted, subangular, medium to coarse GRAVEL and fine to coarse sand, wet, medium dense Olive gray (5Y 3/2), very well sorted, rounded, fine SAND, wet, medium dense	GW SP	0 0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
31												

NOTES:

msl = mean sea level

bgs = below ground surface

302483

**CH2MHILL****SOIL BORING LOG**

SHEET 3 OF 5

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett Street
 SURFACE ELEVATION: 7.62 feet msl TOTAL DEPTH: 48.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/05/2001 6:30:00 AM FINISH: 11/09/2001 9:30:00 AM
 NORTHING: 398829.866 feet EASTING: 318601.912 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

32	7	32-34	Soil	6-5-5-3	10	1	0-1	SAA (30.3 - 32.0ft bgs)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
33												
34	8	34-36	Soil	4-8-10-11	18	1.2	0-0.3	SAA (30.3 - 32.0ft bgs)	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							0.3-0.8	Pale yellowish brown (10YR 6/2), mottled (common, fine, prominent, dark yellowish orange), well sorted, rounded, SILT and clay, moist, very stiff, laminated		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
35							0.8-1.1	SAA, (NOTE: coarser grained, see 30.3 - 32.0ft bgs)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
36	9	36-38	Soil	8-18-20-50	38	1.3	0-0.5	Olive gray (5Y 3/2), very well sorted, rounded, fine SAND, wet, medium dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							0.5-1.2	Yellowish gray (5Y 7/2), mottled (common, fine, prominent, dark yellowish orange), very well sorted, rounded, fine SAND, wet, dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
37												

NOTES:

msl = mean sea level
 bgs = below ground surface

302484

**CH2MHILL****SOIL BORING LOG**

SHEET 4 OF 5

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18M

PROJECT NAME: EPA-Martin Aaron LOCATION: Everett Street

SURFACE ELEVATION: 7.62 feet msl TOTAL DEPTH: 48.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA

SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler

START: 11/05/2001 6:30:00 AM FINISH: 11/09/2001 9:30:00 AM

NORTHING: 398829.866 feet EASTING: 318601.912 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

38	10	38-40	Soil	50-50	1	0-2		SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
39												
40	11	40-42	Soil	50	0.5	0-0.5		SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
41												
42	12	42-44	Soil	37-50-6	56	.75	0-0.75	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
43												
44	13	44-46	Soil	4-9-9-9	18	2	0-2	Yellowish gray (5Y 7/2), mottled (common, fine, prominent, dark yellowish orange), well sorted,	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302485

**CH2MHILL****SOIL BORING LOG**

SHEET 5 OF 5

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18M
PROJECT NAME: EPA-Martin Aaron LOCATION: Everett Street
SURFACE ELEVATION: 7.62 feet msl TOTAL DEPTH: 48.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
START: 11/05/2001 6:30:00 AM FINISH: 11/09/2001 9:30:00 AM
NORTHING: 398829.866 feet EASTING: 318601.912 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

45								rounded, CLAY and silt, some fine sand, moist, stiff, thinly bedded (NOTE: thinly bedded sand (SC) and clay)				
46	14	46-48	Soil	24-19-18-32	37	2	0-2	Yellowish gray (5Y 7/2), mottled (common, fine, prominent, dark yellowish orange), very well sorted, rounded, fine SAND, wet, dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
47												
48												

NOTES:

msl = mean sea level

bgs = below ground surface

302486

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 11

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett St, between Broadway and Sixth
 SURFACE ELEVATION: 7.60 feet msl TOTAL DEPTH: 152.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/27/2001 7:30:00 AM FINISH: 11/28/2001 4:00:00 PM
 NORTHING: 398827.203 feet EASTING: 318575.427 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

43								NOTE: Blind drill to 45 ft bgs. See boring MA-MW18M.				
44												
45	1	45-47	Soil	23-32-50	82	0.2	0-2	Pale yellowish brown (10YR 6/2), poorly sorted, subangular, fine to medium GRAVEL, little clay, wet	GW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
46												
47	2	47-49	Soil	21-37-50	87	1	0-2	Pale yellowish brown (10YR 6/2), moderately sorted, angular, medium to coarse GRAVEL, trace coarse sand, wet	GP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
48												
49	3	49-51	Soil	31-50			0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
50												

NOTES:

msl = mean sea level

bgs = below ground surface

302487

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 11

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett St, between Broadway and Sixth
 SURFACE ELEVATION: 7.60 feet msl TOTAL DEPTH: 152.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/27/2001 7:30:00 AM FINISH: 11/28/2001 4:00:00 PM
 NORTHING: 398827.203 feet EASTING: 318575.427 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

51	4	51-53	Soil	23-29-27-29	56	2	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
52												
53	5	53-55	Soil	33-31-25-28	56	1.1	0-0.7	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
54							0.7-1.1	Moderate yellow (5Y 7/6), well sorted, subangular, coarse SAND, some fine gravel	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
55	6	55-57	Soil	42-50		1	0-2	Pale yellowish brown (10YR 6/2), moderately sorted, subangular, fine to medium GRAVEL, some coarse sand, trace clay	GW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
56												
57												

NOTES:

msl = mean sea level

bgs = below ground surface

302488

**CH2MHILL****SOIL BORING LOG**

SHEET 3 OF 11

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett St, between Broadway and Sixth
 SURFACE ELEVATION: 7.60 feet msl TOTAL DEPTH: 152.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/27/2001 7:30:00 AM FINISH: 11/28/2001 4:00:00 PM
 NORTHING: 398827.203 feet EASTING: 318575.427 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
57	7	57-59	Soil	7-14-17-19	31	1.3	0-2	Very light grey (N8), mottled (many, fine, prominent, dark yellowish orange), well sorted, subrounded, CLAY and silt, medium plasticity	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
58												
59	8	59-61	Soil	7-10-13-14	23	1.1	0-2	Yellowish gray (5Y 8/1), well sorted, subrounded, CLAY and silt, medium plasticity	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
60												
61	9	61-63	Soil				0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
62												
63	10	63-65	Soil	15-26-25-26	51	1.3	0-2	Yellowish gray (5Y 8/1), mottled (many, fine, faint, dark yellowish orange), well sorted, subrounded, fine SAND and clay, wet (NOTE: 2in clay layer at top)	SC	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
64												

NOTES:

msl = mean sea level

bgs = below ground surface

302489



CH2MHILL

SOIL BORING LOG

SHEET 4 OF 11

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett St, between Broadway and Sixth
 SURFACE ELEVATION: 7.60 feet msl TOTAL DEPTH: 152.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/27/2001 7:30:00 AM FINISH: 11/28/2001 4:00:00 PM
 NORTHING: 398827.203 feet EASTING: 318575.427 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-8"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

65	11	65-67	Soil		1.4	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
66											
67	12	67-69	Soil	24-25-25-18	50	0.4	0-2	Light Brown (5YR 5/6), well sorted, subangular, coarse SAND, wet	SP	0	PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
68											
69	13	69-71	Soil	7-10-11-16	21	1.9	0-2	Yellowish gray (5Y 8/1), mottled (many, fine, distinct, dark yellowish orange), well sorted, subangular, CLAY and silt, medium plasticity	CH	0	PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
70											
71											

NOTES:

msl = mean sea level
 bgs = below ground surface

302490

**CH2MHILL****SOIL BORING LOG**

SHEET 5 OF 11

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett St, between Broadway and Sixth
 SURFACE ELEVATION: 7.60 feet msl TOTAL DEPTH: 152.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/27/2001 7:30:00 AM FINISH: 11/28/2001 4:00:00 PM
 NORTHING: 398827.203 feet EASTING: 318575.427 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

72	14	71-73	Soil	8-9-12-15	21	1.9	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
73	15	73-75	Soil	7-10-25-23	35	1.7	0-0.4	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
74							-1.6-0.3	Yellowish gray (5Y 8/1), mottled (many, fine, distinct, dark yellowish orange), well sorted, subrounded, intermixed, clayey SILT, trace fine sand, slight plasticity	MH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
75	17	75-77	Soil	9-13-18-23	31	1.4	0-2	Yellowish gray (5Y 8/1), mottled (many, fine, distinct, dark yellowish orange), well sorted, subrounded, intermixed, silty CLAY, medium plasticity	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
76												
77	18	77-79	Soil	8-24-27-33	51	1.2	0-2	Yellowish gray (5Y 8/1), mottled (many, fine, distinct, dark yellowish orange), well sorted, subrounded, intermixed, clayey SILT, slight plasticity, laminated (NOTE: with 0.25in of fine sand layers)	MH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
78												

NOTES:

msl = mean sea level

bgs = below ground surface

302491

**CH2MHILL****SOIL BORING LOG**

SHEET 6 OF 11

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett St, between Broadway and Sixth
 SURFACE ELEVATION: 7.60 feet msl TOTAL DEPTH: 152.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/27/2001 7:30:00 AM FINISH: 11/28/2001 4:00:00 PM
 NORTHING: 398827.203 feet EASTING: 318575.427 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

79	19	79-81	Soil	12-20-27-32	47	1.8	0-1.6	Yellowish gray (5Y 8/1), mottled (many, fine, distinct, dark yellowish orange), intermixed, silty CLAY, very thinly bedded (NOTE: bedded with fine sand)	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
80							1.6-1.8	Dark yellowish orange (10YR 6/6), well sorted, subangular, fine to medium SAND	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
81	20	81-83	Soil	17-44-33-30	77	1.1	0-2	Pinkish gray (5YR 8/1), poorly sorted, subangular, fine GRAVEL and coarse sand, trace clay, wet, very thinly bedded (NOTE: clay (~2in) 2 layers)	GW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
82												
83	21	83-85	Soil	17-33-50	83	0.4	0-2	SAA				PID malfunctioning; RAD(B)=40 cpm, (H)=40 cpm
84												
85												

NOTES:

msl = mean sea level

bgs = below ground surface

302492



CH2MHILL

SOIL BORING LOG

SHEET 7 OF 11

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett St, between Broadway and Sixth
 SURFACE ELEVATION: 7.60 feet msl TOTAL DEPTH: 152.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/27/2001 7:30:00 AM FINISH: 11/28/2001 4:00:00 PM
 NORTHING: 398827.203 feet EASTING: 318575.427 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
86	22	85-87	Soil	21-50		0.4	0-2	Grayish orange (10YR 7/4), well sorted, subangular, fine SAND, little clay, low plasticity, wet	MH			PID malfunctioning; RAD(B)=40 cpm, (H)=40 cpm
87	23	87-89	Soil	50		0.4	0-0.3 0.3-0.4	SAA CLAY				PID malfunctioning; RAD(B)=40 cpm, (H)=40 cpm PID malfunctioning; RAD(B)=40 cpm, (H)=40 cpm
89	24	89-91	Soil	50		0.3	0-2	Yellowish gray (5Y 7/2), well sorted, subrounded, SILT and clay, low plasticity	MH			PID malfunctioning; RAD(B)=40 cpm, (H)=40 cpm
91	25	91-93	Soil	28-38-50	88	0.6	0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, coarse SAND, some fine gravel, trace clay, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302493

**CH2MHILL****SOIL BORING LOG**

SHEET 8 OF 11

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18D
PROJECT NAME: EPA-Martin Aaron LOCATION: Everett St, between Broadway and Sixth
SURFACE ELEVATION: 7.60 feet msl TOTAL DEPTH: 152.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
START: 11/27/2001 7:30:00 AM FINISH: 11/28/2001 4:00:00 PM
NORTHING: 398827.203 feet EASTING: 318575.427 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6" 6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

93	26	93-95	Soil	22-25-50	1.2	0-1.2		Yellowish gray (5Y 7/2), mottled (many, fine, prominent, dark yellowish orange), well sorted, subangular, intermixed, CLAY and silt, medium plasticity	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
94												
95	27	95-97	Soil	50-50	0.6	0-2		Grayish yellow (5Y 8/4), well sorted, subrounded, fine to medium SAND, some clay, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
96												
97	28	97-99	Soil		0	0-2		No Recovery				
98												
99												

NOTES:

msl = mean sea level
bgs = below ground surface

302494



CH2MHILL

SOIL BORING LOG

SHEET 9 OF 11

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett St, between Broadway and Sixth
 SURFACE ELEVATION: 7.60 feet msl TOTAL DEPTH: 152.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/27/2001 7:30:00 AM FINISH: 11/28/2001 4:00:00 PM
 NORTHING: 398827.203 feet EASTING: 318575.427 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
29	99-101	Soil	8-16-17	33	1.4	0-2	Yellowish gray (5Y 7/2), mottled (many, fine, prominent, dark yellowish orange), well sorted, subangular, intermixed, fine SAND and clay, slight plasticity	SC	0			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
100												
101	30	101-103	Soil	12-13-14-33	27	1.7	0-0.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
						0.5-1.7	Grayish orange pink (5YR 7/2), well sorted, rounded, CLAY and silt, medium plasticity, wet	CH	0			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
102												
103	31	103-105	Soil	13-44-42-50	86	1	0-2	Grayish orange pink (5YR 7/2), mottled (many, fine, faint, dark yellowish orange), well sorted, subangular, fine SAND, little clay	SC	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
104												
105												
106												

NOTES:

msl = mean sea level

bgs = below ground surface

302495

**CH2MHILL****SOIL BORING LOG**

SHEET 10 OF 11

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett St. between Broadway and Sixth
 SURFACE ELEVATION: 7.60 feet msl TOTAL DEPTH: 152.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/27/2001 7:30:00 AM FINISH: 11/28/2001 4:00:00 PM
 NORTHING: 398827.203 feet EASTING: 318575.427 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

107	32	107-109	Soil	13-14-13-17	27	1.4	0-2	Dark yellowish orange (10YR 6/6), well sorted, subangular, coarse SAND, trace fine gravel, trace clay (NOTE: increasing outside temperatures may be responsible for the increase in PID readings)	SP	2.5	PID(B)=2.5 ppm, (H)=2.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
108											
109	33	109-111	Soil	7-15-17-21	32	1.1	0-0.9	SAA		0	PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
110							0.9-1.1	SAA (NOTE: mottling layered ~0.5in)		0	PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
111	34	111-113	Soil	15-19-21-23	40	1.7	0-1	Very pale orange (10YR 8/2), well sorted, subrounded, CLAY and silt, wet	CH	0.9	PID(B)=0.9 ppm, (H)=0.9 ppm; RAD(B)=40 cpm, (H)=40 cpm
112							1-1.7	Moderate reddish orange (10R 6/6), well sorted, subrounded, CLAY and silt, wet	CH	0.9	PID(B)=0.9 ppm, (H)=0.9 ppm; RAD(B)=40 cpm, (H)=40 cpm
113											

NOTES:

msl = mean sea level

bgs = below ground surface

302496

**CH2MHILL****SOIL BORING LOG**

SHEET 11 OF 11

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-MW18D
PROJECT NAME: EPA-Martin Aaron LOCATION: Everett St, between Broadway and Sixth
SURFACE ELEVATION: 7.60 feet msl TOTAL DEPTH: 152.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
START: 11/27/2001 7:30:00 AM FINISH: 11/28/2001 4:00:00 PM
NORTHING: 398827.203 feet EASTING: 318575.427 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

113	35	113-115	Soil			0-2	SAA		0.9		PID(B)=0.9 ppm, (H)=0.9 ppm; RAD(B)=40 cpm, (H)=40 cpm
114											
115							Boring continued to 152 ft bgs.				
116											
117											
118											
119											

NOTES:

msl = mean sea level
bgs = below ground surface

302497

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 6

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW19M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Intersection of Sixth and Everett Streets
 SURFACE ELEVATION: 6.66 feet msl TOTAL DEPTH: 56.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/12/2001 7:00:00 AM FINISH: 11/12/2001 1:20:00 PM
 NORTHING: 398858.905 feet EASTING: 318899.027 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
14								NOTE: Blind drill to 16 ft bgs. See boring MA-MW19S.				
15												
16	1	16-18	Soil	2-2-7-9	9	2	0-1.75	Black (N1), well sorted, rounded, SILT, trace fine gravel, moist, stiff	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
17												
18	2	18-20	Soil	8-4-2-4	6	.83	1.75-2 0-0.8	Medium light gray (N6), well sorted, rounded, medium SAND, moist, loose Medium light gray (N6), mottled (common, medium, distinct, dark yellowish orange), moderately sorted, subrounded, intermixed, fine to coarse SAND and fine to medium gravel, moist, loose (NOTE: intermixed sand and gravel)	SP SP	0 0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
19												
20	3	20-22	Soil	1-2-1-1	3	1	0-1	Black (N1), well sorted, rounded, SILT, trace fine gravel, moist, stiff	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
21												

NOTES:

msl = mean sea level

bgs = below ground surface

302498

**CH2MHILL**

SOIL BORING LOG

SHEET 2 OF 6

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW19M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Intersection of Sixth and Everett Streets
 SURFACE ELEVATION: 6.66 feet msl TOTAL DEPTH: 56.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/12/2001 7:00:00 AM FINISH: 11/12/2001 1:20:00 PM
 NORTHING: 398858.905 feet EASTING: 318899.027 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
22	4	22-24	Soil	3-3-3-2	6	1.3	0-1.3	Medium light gray (N6), mottled (common, fine, distinct, dark yellowish orange), well sorted, rounded, fine SAND, some silt and fine gravel, moist, loose	SP	0	PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
23											
24	5	24-26	Soil	2-5-9-11	14	1.3	0-1.3	SAA, (NOTE: more gravel in bottom 2 inches of spoon)	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
25											
26	6	26-28	Soil	5-5-9-11	14	1.8	0-1.9	SAA (NOTE: with coarse sands)	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
27											
28	7	28-30	Soil	7-15-20-27	35	2	0-2	SAA	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302499

**CH2MHILL****SOIL BORING LOG**

SHEET 3 OF 6

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-MW19M
PROJECT NAME: EPA-Martin Aaron LOCATION: Intersection of Sixth and Everett Streets
SURFACE ELEVATION: 6.66 feet msl TOTAL DEPTH: 56.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
START: 11/12/2001 7:00:00 AM FINISH: 11/12/2001 1:20:00 PM
NORTHING: 398858.905 feet EASTING: 318899.027 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
29											
30	8	30-32	Soil	7-15-20-25	35	1.25	0-1.25 SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
31											
32	9	32-34	Soil	8-12-27-34	39	1.5	0-1.5 SAA		0		PID(B)=0.0 ppm, (H)=0.0 cpm; RAD(B)=40 cpm, (H)=40 cpm
33											
34	10	34-36	Soil	21-27-50	77	1.41	0-1 SAA		0		PID(B)=0.0 ppm, (H)=0.0 cpm; RAD(B)=40 cpm, (H)=40 cpm
35											

NOTES:

msl = mean sea level

bgs = below ground surface

302500

**CH2MHILL****SOIL BORING LOG**

SHEET 4 OF 6

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-MW19M
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Intersection of Sixth and Everett Streets
SURFACE ELEVATION: 6.66 feet msl **TOTAL DEPTH:** 56.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Hollow Stem Auger **DRILLING EQUIPMENT:** CME 85 Rig 4 1/4in I.D./8in O.D. HSA
SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer **CH2M GEOLOGIST:** Mark Eshbaugh
START: 11/12/2001 7:00:00 AM **FINISH:** 11/12/2001 1:20:00 PM
NORTHING: 398858.905 feet **EASTING:** 318899.027 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
36	11	36-38	Soil	37-34-50	84	.92	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 cpm; RAD(B)=40 cpm, (H)=40 cpm
37												
38	12	38-40	Soil	27-34-47-50	81	.5	0-0.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 cpm; RAD(B)=40 cpm, (H)=40 cpm
39												
40	13	40-42	Soil	18-27-50-50	77	.67	0-0.6	SAA, but medium to fine sand		0		PID(B)=0.0 ppm, (H)=0.0 cpm; RAD(B)=40 cpm, (H)=40 cpm
41												
42	14	42-44	Soil	44-50	100	0.5	0-0.5	SAA, Moderate yellow (5Y 7/6)		0		PID(B)=0.0 ppm, (H)=0.0 cpm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302501

**CH2MHILL****SOIL BORING LOG**

SHEET 5 OF 6

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW19M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Intersection of Sixth and Everett Streets
 SURFACE ELEVATION: 6.66 feet msl TOTAL DEPTH: 56.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/12/2001 7:00:00 AM FINISH: 11/12/2001 1:20:00 PM
 NORTHING: 398858.905 feet EASTING: 318899.027 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
43											
44	15	44-46	Soil	25-27-25-27	52 1	0-1	Pale greenish yellow (10Y 8/2), mottled (common, coarse, distinct, pale greenish yellow), poorly sorted, subangular, fine to coarse SAND and fine to coarse gravel, wet, very dense	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
45											
46	16	46-48	Soil	12-34-47-50	81 1.67	0-1.6	SAA, Grayish yellow (5Y 8/4) (NOTE: but less gravel)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
47											
48	17	48-50	Soil	24-33-34-50	67 1	0-2	SAA, Yellowish gray (5Y 7/2) (NOTE: very little gravel)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
49											
50											

NOTES:

msl = mean sea level

bgs = below ground surface

302502

**CH2MHILL****SOIL BORING LOG**

SHEET 6 OF 6

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-MW19M
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Intersection of Sixth and Everett Streets
SURFACE ELEVATION: 6.66 feet msl **TOTAL DEPTH:** 56.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Hollow Stem Auger **DRILLING EQUIPMENT:** CME 85 Rig 4 1/4in I.D./8in O.D. HSA
SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer **CH2M GEOLOGIST:** Mark Eshbaugh
START: 11/12/2001 7:00:00 AM **FINISH:** 11/12/2001 1:20:00 PM
NORTHING: 398858.905 feet **EASTING:** 318899.027 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
50	18	50-52	Soil	11-16-22-26	38	.5	0-0.5	SAA (NOTE: no gravel)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
51												
52	19	52-54	Soil	11-14-17-12	31	2	0-2	Yellowish gray (5Y 7/2), mottled (few, coarse, distinct, dark yellowish orange), well sorted, subrounded, coarse SAND, trace silt, wet, dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
53												
54	20	54-56	Soil	25-30-37-42	67	1.5	0-0.1 0.1-0.6	SAA Very pale orange (10YR 8/2), mottled (few, fine, prominent, dark yellowish orange), SILT and clay, low plasticity, moist, hard	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
55							0.6-1.5	Yellowish gray (5Y 7/2), mottled (few, coarse, distinct, dark yellowish orange), well sorted, subrounded, coarse SAND, trace silt, wet, dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
56												

NOTES:

msl = mean sea level

bgs = below ground surface

302503

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 4

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW19R
 PROJECT NAME: EPA-Martin Aaron LOCATION: Intersection of Sixth and Everett Streets
 SURFACE ELEVATION: 6.66 feet msl TOTAL DEPTH: 116.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 05/30/2002 FINISH: _____
 NORTHING: 398847.102 feet EASTING: 318898.361 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

64								NOTE: Blind drill to 66 ft bgs. See boring MA-MW19M.				
65												
66	1	66-68	Soil			0.33	0-0.33	Very pale orange (10YR 8/2), CLAY, some medium sand, medium plasticity, dry, very stiff (NOTE: increasing sand with depth)	CL	0		
67												
68	2	68-70	Soil	28-50/4in		0.25	0-0.25	Dark yellowish orange (10YR 6/6), very well sorted, subangular, medium SAND, trace clay, moist, dense (NOTE: soil may have fallen in; small black specs on sand grains)	SM	0.2		
69												
70	3	70-72	Soil			0.67	0-0.67	SAA (NOTE: increasing fine to medium gravel)				
71												
72	4	72-74	Soil	27-48-48-60	96	0.67	0-0.67	Dark yellowish orange (10YR 6/6), moderately sorted, subrounded, fine to medium GRAVEL and medium sand, moist, dense	GM	0		
73												
74	5	74-76	Soil			0.5	0-0.5	SAA (NOTE: decreasing gravel)				
75												
76	6	76-78	Soil			0.5	0-0.5	Very pale orange (10YR 8/2), well sorted, subangular, medium SAND, trace fine gravel, trace silt, moist, dense	SM			
77												

NOTES:

 msl = mean sea level
 bgs = below ground surface

302504

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 4

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW19R
 PROJECT NAME: EPA-Martin Aaron LOCATION: Intersection of Sixth and Everett Streets
 SURFACE ELEVATION: 6.66 feet msl TOTAL DEPTH: 116.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 05/30/2002 FINISH: _____
 NORTHING: 398847.102 feet EASTING: 318898.361 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

78	7	78-80	Soil	43-49-50-48	99	0.5	0-0.5	SAA (NOTE: decreasing gravel)		0		
79												
80	8	80-82	Soil			0.33	0-0.33	Moderate yellow (5Y 7/6), moderately sorted, subangular, medium SAND, trace silt, little fine gravel, moist, dense	SM			
81												
82	9	82-84	Soil	50/5in		0.4	0-0.4	Moderate yellow (5Y 7/6), very well sorted, subangular, medium SAND, trace silt, moist, dense	SM	0		
83												
84	10	84-86	Soil			0.5	0-0.5	SAA				
85												
86	11	86-88	Soil			0.67	0-0.67	SAA				
87												
88	12	88-90	Soil	40-50/4in		0.5	0-0.5	Moderate yellow (5Y 7/6), very well sorted, subrounded, fine to medium SAND, trace silt, moist, dense	SM	0		
89												
90	13	90-92	Soil			0.5	0-0.5	SAA		0		
91												

NOTES:

msl = mean sea level

bgs = below ground surface

302505

**CH2MHILL****SOIL BORING LOG**

SHEET 3 OF 4

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW19R
 PROJECT NAME: EPA-Martin Aaron LOCATION: Intersection of Sixth and Everett Streets
 SURFACE ELEVATION: 6.66 feet msl TOTAL DEPTH: 116.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 05/30/2002 FINISH: _____
 NORTHING: 398847.102 feet EASTING: 318898.361 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PI/D/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTILING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

92	14	92-94	Soil	32-50/4in	0.5	0-0.5		Very pale orange (10YR 8/2), CLAY, trace silt, trace fine sand, dry, hard (NOTE: clay has low to medium plasticity; changed over to medium sand with trace silt)	CL	0		
93												
94	15	94-96	Soil		0.5	0-0.5		Grayish orange (10YR 7/4), very well sorted, subrounded, fine to medium SAND, trace silt, moist, dense	SM	0		
95												
96	16	96-98	Soil		0.5	0-0.5		SAA		0		
97												
98	17	98-100	Soil		0.5	0-0.25 0.5 0.25-0.5		SAA	SM	0		
99								Very pale orange (10YR 8/2), very well sorted, subrounded, fine SAND, trace silt, moist, dense		0		
100	18	100-102	Soil	45-50/4in	0.5	0-0.5		SAA				
101												
102	19	102-104	Soil	45-50/4in	0.5	0-0.5		SAA		0		
103												
104	20	104-106	Soil	45-50/4in		0-2		SAA				
105												

NOTES:

msl = mean sea level

bgs = below ground surface

302506

**CH2MHILL****SOIL BORING LOG**

SHEET 4 OF 4

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW19R
 PROJECT NAME: EPA-Martin Aaron LOCATION: Intersection of Sixth and Everett Streets
 SURFACE ELEVATION: 6.66 feet msl TOTAL DEPTH: 116.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 05/30/2002 FINISH: _____
 NORTHING: 398847.102 feet EASTING: 318898.361 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

106	21	106-108	Soil	43-50/4in			0-2	SAA (NOTE: increasing medium-coarse sand)				
107												
108	22	108-110	Soil	50/4in		0.83	0-0.83	Grayish orange (10YR 7/4), very well sorted, subrounded, medium to coarse SAND, trace silt, moist, dense	SM			
109												
110	23	110-112	Soil	50/4in		0.67	0-0.67	SAA				
111												
112	24	112-114	Soil			0.83	0-0.42 0.42-0.83	SAA		0		
113								Very light grey (N8), CLAY, medium plasticity, dry	CL	0		
114	25	114-116	Soil	16-24-34-40	58	0.83	0-0.83	Very light grey (N8), CLAY, trace silt, high plasticity, dry, very stiff	CH	0		
115												
116												

NOTES:

msl = mean sea level
 bgs = below ground surface

302507



CH2MHILL

SOIL BORING LOG

SHEET 1 OF 4

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20S
 PROJECT NAME: EPA-Martin Aaron LOCATION: Corner of Jackson and S. Sixth Street
 SURFACE ELEVATION: 6.67 feet msl TOTAL DEPTH: 20.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/07/2001 10:30:00 AM FINISH: 11/07/2001 11:45:00 AM
 NORTHING: 398149.781 feet EASTING: 318872.603 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

0	1	0-2	Soil	15-6-5	11	.5	0-0.2 0.2-0.5 0.5-1	ASPHALT Belgin Block Moderate yellowish brown (10YR 5/4), well sorted, rounded, medium SAND, moist, medium dense	SP	0 0 0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
	2	2-4	Soil			1.6	0-1.7	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
	3											
4	3	4-6	Soil	3-2-3-4	5	1	0-1	SAA, some silt		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
5												

NOTES:

msl = mean sea level

bgs = below ground surface

302508

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 4

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20S
 PROJECT NAME: EPA-Martin Aaron LOCATION: Corner of Jackson and S. Sixth Street
 SURFACE ELEVATION: 6.67 feet msl TOTAL DEPTH: 20.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Mark Eshbaugh
 START: 11/07/2001 10:30:00 AM FINISH: 11/07/2001 11:45:00 AM
 NORTHING: 398149.781 feet EASTING: 318872.603 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
6	4	6-8	Soil	3-3-3-2	6	1.75	0-1.8	Dark yellowish orange (10YR 6/6), very well sorted, rounded, fine SAND, moist, loose		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
7												
8	5	8-10	Soil	9-7-8-8	15	1.3	0-1.5	SAA, Moderate yellowish brown (10YR 5/4), medium dense		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
9												
10	6	10-12	Soil			1.2	0-0.2 0.2-1.4	SAA, wet Light Brown (5YR 5/6), mottled (common, fine, faint, pale brown), very well sorted, well rounded, SILT and clay, low plasticity, moist	ML	0 0.5		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm PID(B)=0.0 ppm, (H)=0.5 ppm; RAD(B)=60 cpm, (H)=60 cpm
11												

NOTES:

msl = mean sea level
 bgs = below ground surface

302509

**CH2MHILL****SOIL BORING LOG**

SHEET 3 OF 4

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20S
PROJECT NAME: EPA-Martin Aaron LOCATION: Corner of Jackson and S. Sixth Street
SURFACE ELEVATION: 6.67 feet msl TOTAL DEPTH: 20.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Mark Eshbaugh
START: 11/07/2001 10:30:00 AM FINISH: 11/07/2001 11:45:00 AM
NORTHING: 398149.781 feet EASTING: 318872.603 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

12	7	12-14	Soil	7-8-8-9	16	2	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
13												
14	8	14-16	Soil	3-3-2-6	5	2	0-0.5	Dark yellowish brown (10YR 4/2), very well sorted, rounded, fine SAND, moist, loose	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							0.5-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
15												
16	9	16-18	Soil	6-4-7-6	11	2	0-0.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							0.5-0.75	Moderate yellowish brown (10YR 5/4), very well sorted, rounded, fine SAND, moist, loose	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							0.75-1	Dark yellowish brown (10YR 4/2), very well sorted, rounded, fine SAND, moist, loose	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
17							1-1.5	Moderate yellowish brown (10YR 5/4), very well sorted, rounded, fine SAND, moist, loose	SP	0		PID(B)=0.0 cpm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm

NOTES:msl = mean sea level
bgs = below ground surface

302510

**CH2MHILL****SOIL BORING LOG**

SHEET 4 OF 4

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20S

PROJECT NAME: EPA-Martin Aaron LOCATION: Corner of Jackson and S. Sixth Street

SURFACE ELEVATION: 6.67 feet msl TOTAL DEPTH: 20.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA

SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Mark Eshbaugh

START: 11/07/2001 10:30:00 AM FINISH: 11/07/2001 11:45:00 AM

NORTHING: 398149.781 feet EASTING: 318872.603 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
18	10	18-20	Soil	7-7-4-6	11	2	0-2	Dark yellowish brown (10YR 4/2), very well sorted, rounded, fine SAND, wet, loose	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
19												
20												

NOTES:

msl = mean sea level

bgs = below ground surface

302511

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 8

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20M
PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth Street and Jackson
SURFACE ELEVATION: 6.93 feet msl TOTAL DEPTH: 70.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
START: 11/13/2001 7:00:00 AM FINISH: 11/13/2001 12:00:00 PM
NORTHING: 398174.443 feet EASTING: 318875.777 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6" 6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
13								NOTE: Blind drill to 15 ft bgs. See boring MA-MW20S.				
14												
15	1	15-17	Soil	5-4-6-5	10	1	0-2	Pale reddish brown (10R 5/4), well sorted, rounded, silty CLAY, high plasticity	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
16												
17	2	17-19	Soil	3-3-5-6	8	1.67	0-0.5	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
18							0.5-1.67	Pale reddish brown (10R 5/4), well sorted, rounded, intermixed, silty CLAY and fine sand, high plasticity	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
19												
20	3	20-21	Soil	WH-1-1-3	2	1	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm,

NOTES:

msl = mean sea level

bgs = below ground surface

302512

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 8

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth Street and Jackson
 SURFACE ELEVATION: 6.93 feet msl TOTAL DEPTH: 70.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/13/2001 7:00:00 AM FINISH: 11/13/2001 12:00:00 PM
 NORTHING: 398174.443 feet EASTING: 318875.777 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
21	4	21-24	Soil	5-7-18-20	25	1.5	0-0.83	Light olive gray (5Y 5/2), well sorted, rounded, medium SAND, wet	SP	0		(H)=40 cpm PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
22							1.83-2.5	Yellowish gray (5Y 7/2), mottled (common, medium, faint, yellowish gray), poorly sorted, subrounded, fine SAND and fine gravel, medium plasticity, wet	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
23	5	23-25	Soil	12-15-18-20	33	1.16	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
24												
25	6	25-27	Soil	17-20-14-12	34	1	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
26												
27	7	27-29	Soil	8-8-11-14	19		0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302513

**CH2MHILL****SOIL BORING LOG**

SHEET 3 OF 8

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth Street and Jackson
 SURFACE ELEVATION: 6.93 feet msl TOTAL DEPTH: 70.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/13/2001 7:00:00 AM FINISH: 11/13/2001 12:00:00 PM
 NORTHING: 398174.443 feet EASTING: 318875.777 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
28											
29	8	29-31	Soil	14-14-18-20	32	0-2	SAA, some silt		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
30											
31											
32	9	32-34	Soil	14-15-19-15	34	1 0-1	Very pale orange (10YR 8/2), mottled (few, fine, distinct, dark yellowish orange), moderately sorted, subangular, fine to medium GRAVEL and fine to coarse sand, moist, dense	GP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
33	10	33-35	Soil	14-14-22-18	36	1.58 0-0.8	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
34	11	33-35	Soil	11-12-15-16	27	1.16 1-2.2	SAA (NOTE: layered, no mottling)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302514

**CH2MHILL****SOIL BORING LOG**

SHEET 4 OF 8

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20M

PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth Street and Jackson

SURFACE ELEVATION: 6.93 feet msl TOTAL DEPTH: 70.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA

SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler

START: 11/13/2001 7:00:00 AM FINISH: 11/13/2001 12:00:00 PM

NORTHING: 398174.443 feet EASTING: 318875.777 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
35											
36	12	35-37	Soil	14-17-15-12	32 1	1-2	SAA (NOTE: no layering)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
37											
38											
39											
40	13	40-42	Soil	15-17-23-27	40 1.3	0-0.8	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
41											
42											

NOTES:

msl = mean sea level

bgs = below ground surface

302515

**CH2MHILL****SOIL BORING LOG**

SHEET 5 OF 8

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth Street and Jackson
 SURFACE ELEVATION: 6.93 feet msl TOTAL DEPTH: 70.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/13/2001 7:00:00 AM FINISH: 11/13/2001 12:00:00 PM
 NORTHING: 398174.443 feet EASTING: 318875.777 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
43	14	42-44	Soil			1.3	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
44	15	44-46	Soil	15-17-50	67	1	0-0.5	Very pale orange (10YR 8/2), mottled (few, fine, distinct, dark yellowish orange), well sorted, rounded, SILT and clay, trace fine sand, moist, hard	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
45							0.5-1	Very pale orange (10YR 8/2), mottled (common, distinct, dark yellowish orange), well sorted, rounded, fine SAND, trace fine gravel, moist, dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
46	16	46-48	Soil	36-37-47-48	84	2	0-2	SAA, trace fine gravel		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
48	17	48-50	Soil	15-48-50	98	.67	0-0.7	SAA (NOTE: no gravel)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302516

**CH2MHILL****SOIL BORING LOG**

SHEET 6 OF 8

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-MW20M
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Sixth Street and Jackson
SURFACE ELEVATION: 6.93 feet msl **TOTAL DEPTH:** 70.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Hollow Stem Auger **DRILLING EQUIPMENT:** CME 85 Rig 4 1/4in I.D./8in O.D. HSA
SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer **CH2M GEOLOGIST:** Wojciech Winkler
START: 11/13/2001 7:00:00 AM **FINISH:** 11/13/2001 12:00:00 PM
NORTHING: 398174.443 feet **EASTING:** 318875.777 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
50	18	50-52	Soil	13-27-30-14	57	.83	0-0.9	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
51												
52	19	52-54	Soil	10-12-12-12	24	1.67	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
53							1-1.4	Very light grey (N8), mottled (common, fine, prominent, dark yellowish orange), well sorted, rounded, SILT, some fine sand, moist, stiff, laminated	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
							1.4-1.8	Grayish orange (10YR 7/4), mottled (common, fine, prominent, dark yellowish orange), well sorted, rounded, silty CLAY, high plasticity, moist, stiff, laminated	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
54	20	54-56	Soil	10-20-48-50	68	1	0-0.3	Very pale orange (10YR 8/2), mottled (few, fine, distinct, dark yellowish orange), well sorted, rounded, SILT and clay, trace fine sand, moist, hard	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0.3-1	Very light grey (N8), well sorted, rounded, fine SAND, moist, dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
55												
56	21	56-58	Soil	20-17-33-47	50	1	0-1	Grayish orange (10YR 7/4), well sorted, rounded, medium to coarse SAND, moist, very dense (NOTE: color change to 10YR 6/6 at bottom 2in of spoon)	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302517

**CH2MHILL****SOIL BORING LOG**

SHEET 7 OF 8

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth Street and Jackson
 SURFACE ELEVATION: 6.93 feet msl TOTAL DEPTH: 70.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN:
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/13/2001 7:00:00 AM FINISH: 11/13/2001 12:00:00 PM
 NORTHING: 398174.443 feet EASTING: 318875.777 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
57											
58	22	58-60	Soil	24-37-37-42	74 1	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
59											
60	23	60-62	Soil	10-12-14-17	26 1.3	0-0.6	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
61						0.6-1.2	Yellowish gray (5Y 7/2), mottled (common, fine, prominent, dark yellowish orange), well sorted, rounded, clayey SILT, trace fine sand, slight plasticity, moist, very stiff, laminated	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
62	24	62-64	Soil	20-17-20-37	37 .83	0-0.9	SAA (NOTE: but much more fine sand mixed in)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
63											

NOTES:

msl = mean sea level

bgs = below ground surface

302518

**CH2MHILL****SOIL BORING LOG**

SHEET 8 OF 8

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20M
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth Street and Jackson
 SURFACE ELEVATION: 6.93 feet msl TOTAL DEPTH: 70.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Wojciech Winkler
 START: 11/13/2001 7:00:00 AM FINISH: 11/13/2001 12:00:00 PM
 NORTHING: 398174.443 feet EASTING: 318875.777 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
64	25	64-66	Soil	20-30-39-36	69	1	0-0.5	SAA	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0.5-1	Very light grey (N8), very well sorted, rounded, fine SAND, moist, very dense		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
66	26	66-68	Soil	18-28-47-48	75	1.16	0-1.4	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
68	27	68-70	Soil	50-50		1	0-1.8	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302519

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20R
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth Street and Jackson
 SURFACE ELEVATION: 6.98 feet msl TOTAL DEPTH: 126.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 05/29/2002 FINISH: _____
 NORTHING: 398181.143 feet EASTING: 318876.27 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

98								NOTE: Blind drill to 100 ft bgs. See boring MA-MW20M.				
99												
100	1	100-102	Soil	85-100/3in		0.67	0-0.67	Yellowish gray (5Y 8/1), very well sorted, subrounded, fine SAND, trace silt, dense	SM	0		
101												
102	2	102-104	Soil			0.67	0-0.67	SAA (NOTE: increasing moisture and fine gravel)		0		
103												
104	3	104-106	Soil	50-31-40-50/4in	71	1	0-1	Very pale orange (10YR 8/2), very poorly sorted, rounded, fine GRAVEL and fine sand, trace silt, moist, dense	GM	0		
105												
106	4	106-108	Soil			0.67	0-0.67	SAA		0		
107												
108	5	108-110	Soil			1.33	0-1.33	Very pale orange (10YR 8/2), moderately sorted, rounded, fine to medium SAND, some fine gravel, wet, dense	SM	0		
109												
110	6	110-112	Soil	75-130		0.83	0-0.83	Very pale orange (10YR 8/2), well sorted, rounded, fine SAND, little silt, trace fine gravel, wet, dense	SM	0		
111												
112	7	112-114	Soil			1.16	0-1.16	SAA		0		

NOTES:

 msl = mean sea level
 bgs = below ground surface

302520

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20R
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth Street and Jackson
 SURFACE ELEVATION: 6.98 feet msl TOTAL DEPTH: 126.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/140 LB Hammer CH2M GEOLOGIST: Mark Eshbaugh
 START: 05/29/2002 FINISH: _____
 NORTHING: 398181.143 feet EASTING: 318876.27 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

113												
114	8	114-116	Soil	25-50/5in		0.33	0-0.33	SAA (NOTE: some fine-medium gravel in spoon may have fallen from higher depth in boring)		0		
115												
116	9	116-118	Soil			0.5	0-0.5	SAA		0		
117												
118	10	118-120	Soil			0.5	0-0.5	SAA		0		
119												
120	11	120-122	Soil	60-62-70-72	132	0.5	0-0.5	Moderate yellow (5Y 7/6), well sorted, rounded, medium SAND and fine to medium gravel, wet, dense	SW	0		
121												
122	12	122-124	Soil				0-2	Very pale orange (10YR 8/2), well sorted, rounded, fine SAND and silt, slight plasticity, wet, dense (NOTE: plasticity increasing; sample collected)	SM	0		
123												
124	13	124-126	Soil	38-60/1ft		0.67	0-0.67	Very light grey (N8), CLAY, trace silt and fine sand, medium plasticity, moist, hard (NOTE: decreasing sand and silt with depth)	CL	0		Set well screen from 113 ft-123 ft bgs
125												
126												

NOTES:

 msl = mean sea level
 bgs = below ground surface

302521

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 12

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth and Jackson Streets
 SURFACE ELEVATION: 6.97 feet msl TOTAL DEPTH: 141.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM
 NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
63								NOTE: Blind drill to 65 ft bgs. See boring MA-MW20M.				
65	1	65-67	Soil	25-46-50	96	.3	0-1.3	Yellowish gray (5Y 7/2), very poorly sorted, subangular, fine to medium SAND, some fine gravel, little clay, trace coarse gravel, very dense	SC	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
67	2	67-69	Soil	20-36-50	86	.5	0-0.5	Yellowish gray (5Y 7/2), very well sorted, subangular, medium to coarse SAND, little fine sand, trace fine to medium gravel, wet, dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
69	3	69-71	Soil	37-39-50	89	0.75	0-0.75	SAA, trace clay		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES: Set screen at 133.0 feet bgs.

msl = mean sea level

bgs = below ground surface

302522

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 12

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth and Jackson Streets
 SURFACE ELEVATION: 6.97 feet msl TOTAL DEPTH: 141.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM
 NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

70												
71	4	71-73	Soil	33-37-50	87	0	0-2	No Recovery; coarse gravel thought to be slough		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
72												
73	5	73-75	Soil	25-39-23-21	62	1.5	0-2	Yellowish gray (5Y 7/2), very well sorted, subangular, medium to coarse SAND, trace fine sand, wet, very dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
74												
75	6	75-77	Soil	27-14-12-28	26	2	0-2	Yellowish gray (5Y 7/2), well sorted, subangular, medium to coarse SAND, little fine to medium gravel, wet, medium dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
76												

NOTES: Set screen at 133.0 feet bgs.

msl = mean sea level

bgs = below ground surface

302523



CH2MHILL

SOIL BORING LOG

SHEET 3 OF 12

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth and Jackson Streets
 SURFACE ELEVATION: 6.97 feet msl TOTAL DEPTH: 141.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM
 NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6" 6"-6" 6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
77	7	77-79	Soil	42-24-26-30	50	2	0-1.5	Yellowish gray (5Y 7/2), well sorted, subangular, fine to medium GRAVEL, trace medium to coarse sand, wet, dense	GP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
78							1.5-2	Yellowish gray (5Y 7/2), moderately sorted, silty CLAY, some fine to medium sand, wet	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
79	8	79-81	Soil	29-14-32-34	46	0	0-2	No Recovery				
80												
81	9	81-83	Soil	24-20-22-21	42	0	0-2	No Recovery				
82												
83	10	83-85	Soil	32-25-20-26	45	0	0-2	No Recovery				

NOTES: Set screen at 133.0 feet bgs.

msl = mean sea level

bgs = below ground surface

302524

**CH2MHILL****SOIL BORING LOG**

SHEET 4 OF 12

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20D
PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth and Jackson Streets
SURFACE ELEVATION: 6.97 feet msl TOTAL DEPTH: 141.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM
NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

84												
85	11	85-87	Soil	30-14-23-18	37	0	0-2	No Recovery				
86												
87	12	87-89	Soil	35-20-29-23	49	0	0-2	No Recovery				
88												
89	13	89-91	Soil	37-50		0	0-2	No Recovery				
90												

NOTES: Set screen at 133.0 feet bgs.

msl = mean sea level
bgs = below ground surface

302525

**CH2MHILL****SOIL BORING LOG**

SHEET 5 OF 12

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth and Jackson Streets
 SURFACE ELEVATION: 6.97 feet msl TOTAL DEPTH: 141.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM
 NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								{COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING}				

91	14	91-93	Soil	27-47-50	97	0	0-2	No Recovery				
92												
93	15	93-95	Soil	25-27-24-32	51	.5	0-2	Yellowish gray (5Y 7/2), well sorted, subangular, medium to coarse SAND, trace fine sand, wet, very dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
94												
95	16	95-97	Soil	18-15-32-36	47	2	0-1	Yellowish gray (5Y 7/2), mottled (few, fine, prominent, dark yellowish orange), CLAY and silt, medium plasticity, dry, hard	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
96							1-2	Yellowish gray (5Y 7/2), very well sorted, subangular, fine to medium SAND, trace fine gravel, wet, dense		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
97	17	97-99	Soil	18-13-32-25	45	.5	0-2	SAA (NOTE: no gravel)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm,

NOTES: Set screen at 133.0 feet bgs.

msl = mean sea level

bgs = below ground surface

302526

**CH2MHILL****SOIL BORING LOG**

SHEET 6 OF 12

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20D
PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth and Jackson Streets
SURFACE ELEVATION: 6.97 feet msl TOTAL DEPTH: 141.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM
NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

98												
99	18	99-101	Soil	17-35-34-36	69	0	0-2	No Recovery				
100												
101	19	101-103	Soil	38-50		0	0-2	No Recovery				
102												
103	20	103-105	Soil	38-50		0	0-2	No Recovery				
104												

(H)=20 cpm

NOTES: Set screen at 133.0 feet bgs.

msl = mean sea level

bgs = below ground surface

302527

**CH2MHILL****SOIL BORING LOG**

SHEET 7 OF 12

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth and Jackson Streets
 SURFACE ELEVATION: 6.97 feet msl TOTAL DEPTH: 141.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM
 NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTILING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

105	21	105-107	Soil	20-26-20-18	46	1.5	0-0.75	Pale yellowish brown (10YR 6/2), well sorted, subangular, medium to coarse SAND, some fine sand, wet, dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
106							0.75-1.5	Yellowish gray (5Y 7/2), CLAY and silt, some medium to coarse sand, high plasticity, moist, hard	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
107	22	107-109	Soil	30-28-32-24	60	2	0-2	SAA (NOTE: alternating layers of some sands (SP) and clay and silt (CH))		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
108												
109	23	109-111	Soil	27-22-25-22	47	0.8	0-2	SAA, some fine to medium gravel				PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
110												

NOTES: Set screen at 133.0 feet bgs.

msl = mean sea level

bgs = below ground surface

302528

**CH2MHILL****SOIL BORING LOG**

SHEET 8 OF 12

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth and Jackson Streets
 SURFACE ELEVATION: 6.97 feet msl TOTAL DEPTH: 141.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM
 NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
111	24	111-113	Soil	26-33-20-33	53	0	0-2	No Recovery			
112											
113	25	113-115	Soil	32-50-35-24	85	1.3	0-2	Pale yellowish brown (10YR 6/2), very well sorted, subangular, medium to coarse SAND, some fine sand, wet, very dense	SP	0	PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
114											
115	26	115-117	Soil	22-26-22-27	48	1.7	0-2	SAA		0	PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
116											
117	27	117-119	Soil	17-20-15-17	35	1	0-2	Moderate yellowish brown (10YR 5/4), well sorted, subangular, medium to coarse SAND, little fine sand, wet, dense	SP	0	PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm

NOTES: Set screen at 133.0 feet bgs.

msl = mean sea level

bgs = below ground surface

302529

**CH2MHILL****SOIL BORING LOG**

SHEET 9 OF 12

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth and Jackson Streets
 SURFACE ELEVATION: 6.97 feet msl TOTAL DEPTH: 141.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM
 NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

118												
119	28	119-121	Soil	24-27-22-23	49	.75	0-2	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
120												
121	29	121-123	Soil	9-13-23-10	36	1.9	0-2	Yellowish gray (5Y 7/2), mottled (common, fine, prominent, dark yellowish orange), clayey SILT, low plasticity, dry, hard (NOTE: bottom 3in of spoon more silt and clay)	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
122												
123	30	123-125	Soil	12-12-26-30	38	1.5	0-2	Very pale orange (10YR 8/2), mottled (few, fine, prominent, dark yellowish orange), CLAY and silt, medium plasticity, moist, very stiff	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
124												

NOTES: Set screen at 133.0 feet bgs.

msl = mean sea level

bgs = below ground surface

302530

**CH2MHILL****SOIL BORING LOG**

SHEET 10 OF 12

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth and Jackson Streets
 SURFACE ELEVATION: 6.97 feet msl TOTAL DEPTH: 141.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM
 NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

125	31	125-127	Soil	36-50	2	0-1.5		Very pale orange (10YR 8/2), mottled (few, fine, prominent, dark yellowish orange), clayey SILT, slight plasticity, moist, hard	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
126						1.5-2		Very pale orange (10YR 8/2), very well sorted, subrounded, fine to medium SAND, wet; very dense	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
127	32	127-129	Soil	28-40-50	90	0	0-2	No Recovery				
128												
129	33	129-131	Soil	50		0.5	0-2	poorly sorted, subrounded, fine to medium GRAVEL, wet, very dense	GW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
130												
131	34	131-133	Soil	50		.75	0-2	SAA, (NOTE: gravel size 0.5 inches to 1.0 inches)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm

NOTES: Set screen at 133.0 feet bgs.

msl = mean sea level

bgs = below ground surface

302531

**CH2MHILL****SOIL BORING LOG**

SHEET 11 OF 12

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20D
 PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth and Jackson Streets
 SURFACE ELEVATION: 6.97 feet msl TOTAL DEPTH: 141.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Failing 1400 OS Rig with 6in O.D. dia. Sand Bit
 SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM
 NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

132												
133	35	133-135	Soil	76		.75	0-2	SAA, (NOTE: gravel size 0.5 inches to 1.0 inches)	0			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
134												
135	36	135-137	Soil	25-10-11-13	21	1.5	0-0.75	Yellowish gray (5Y 7/2), poorly sorted, fine to medium GRAVEL and fine to medium sand, trace clay, wet, dense	GC	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
							0.75-1.25	Yellowish gray (5Y 7/2), SILT and clay, trace fine sand, low plasticity, wet, very stiff	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
136							1.25-1.5	Yellowish gray (5Y 7/2), mottled (many, fine, prominent, dark yellowish orange), SILT, moist, very stiff	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
137	37	137-139	Soil	13-11-50	61	1.3	0-0.9	SAA	0			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
138							0.9-1.4	Pale reddish brown (10R 5/4), mottled (few, fine, prominent, grayish orange pink), CLAY and silt, medium plasticity, dry, hard (NOTE: also mottled	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm

NOTES: Set screen at 133.0 feet bgs.

msl = mean sea level

bgs = below ground surface

302532

**CH2MHILL****SOIL BORING LOG**

SHEET 12 OF 12

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-MW20D

PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth and Jackson Streets

SURFACE ELEVATION: 6.97 feet msl TOTAL DEPTH: 141.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Mud Rotary with 6in O.D. Hollow Sand Bit DRILLING EQUIPMENT: Falling 1400 OS Rig with 6in O.D. dia. Sand Bit

SAMPLING METHOD: Down-the-Hole 2-in Split Spoon CH2M GEOLOGIST: Wojciech Winkler

START: 11/16/2001 8:00:00 AM FINISH: 11/21/2001 11:00:00 AM

NORTHING: 398202.363 feet EASTING: 318876.827 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

139	38	139-141	Soil	39-38-30-37	68	2	0-2	with 10YR 6/6)				
140								SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
141												

NOTES: Set screen at 133.0 feet bgs.

msl = mean sea level

bgs = below ground surface

302533

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW21S
 PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
 SURFACE ELEVATION: 6.47 feet msl TOTAL DEPTH: 20.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Winkler/Rech
 START: 01/02/2002 12:45:00 PM FINISH: _____
 NORTHING: 398392.191 feet EASTING: 317912.704 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

0	1	0-2	Soil	4-3-4-3	7	1	0-1	Olive gray (5Y 3/2), well sorted, subangular, fine SAND, trace fine gravel, dry, loose (NOTE: Asphalt sub-base material, fine gravel was slag)	SM			Asphalt sub-base material, fine gravel was slag
1												
2	2	2-4	Soil	5-3-2-2	5	0	0	No Recovery				Chunk of concrete in tip. Some soil recovered, it was wet.
3												
4	3	4-6	Soil	1-2-3-2	5	0.5	0-0.5	Moderate yellowish brown (10YR 5/4), moderately sorted, subangular, medium SAND, little silt, little fine gravel, dry, loose	SM			
5												
6	4	6-8	Soil	WH	NA	0	0	No Recovery				Tube was wet
7												
8	5	8-10	Soil	4-4-4	8	1.2	0-1.2	Moderate yellowish brown (10YR 5/4), well sorted, subangular, medium SAND, trace silt, little fine gravel, moist, loose	SM			fine gravel appeared to be quartz
9												
10												

NOTES:

msl = mean sea level

bgs = below ground surface

302534

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW21S
 PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
 SURFACE ELEVATION: 6.47 feet msl TOTAL DEPTH: 20.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Winkler/Rech
 START: 01/02/2002 12:45:00 PM FINISH: _____
 NORTHING: 398392.191 feet EASTING: 317912.704 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
6	10-12	Soil	9-6-7-9	13	1.7	0-1.7	Moderate yellowish brown (10YR 5/4), well sorted, subangular, medium SAND, some fine gravel, trace silt, wet, medium dense	SM				
11												
12	7	12-14	Soil	7-7-8-8	15	1.7	0-1.7	Moderate yellowish brown (10YR 5/4), well sorted, subangular, coarse SAND, some fine gravel, trace silt, wet, medium dense	GM			
13												
14	8	14-16	Soil	7-9-8-5	17	1.3	0-1.3	SAA, wet, medium dense				
15												
16	9	16-18	Soil	5-9-7-8	16	1.2	0-1.2	SAA, wet, medium dense				
17												
18	10	18-20	Soil	6-5-2-1	7	1	0-1	Light olive gray (5Y 5/2), well sorted, subrounded, medium SAND, trace fine to medium gravel, trace silt, wet, medium dense	SW			
19												
20												

NOTES:

msl = mean sea level

bgs = below ground surface

302535



CH2MHILL

SOIL BORING LOG

SHEET 1 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW22S
 PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
 SURFACE ELEVATION: 7.29 feet msl TOTAL DEPTH: 20.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Winkler/Rech
 START: _____ FINISH: _____
 NORTHING: 398276.023 feet EASTING: 318308.884 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

0	1	0-2	Soil	4-4-5-5	9	0.5	0-0.5	ASPHALT	SM			Asphalt
1	2		Soil				0.5-0.7	Olive back (5Y 2/1), moderately sorted, subangular, medium SAND, some silt, some fine gravel, dry, loose				
2	3	2-4	Soil	6-8-9-7	17	0	0-	No Recovery				Single piece of medium gravel in spoon
3												
4	4	4-6	Soil	4-4-3-4	7	0.1	0-0.1	CONCRETE (NOTE: Small pieces of brick and concrete debris; Tip was clogged with large piece of debris)				Small pieces of brick and concrete debris; Tip was clogged with large piece of debris
5												
6	5	6-8	Soil	2-1-1-1	2	1.5	0-1.5	Dark yellowish orange (10YR 6/6), mottled (common, medium, distinct, moderate reddish brown), well sorted, subangular, medium SAND, some silt, trace fine gravel, dry, very loose	SM			
7												
8	6	8-10	Soil	4-6-4-5			0-1	SAA, dry, loose				
9	7		Soil				1-1.8	Dark yellowish orange (10YR 6/6), well sorted, subangular, medium SAND, trace silt, dry, loose	SW			
10												

NOTES:

msl = mean sea level
 bgs = below ground surface

302536

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-MW22S
 PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
 SURFACE ELEVATION: 7.29 feet msl TOTAL DEPTH: 20.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Hollow Stem Auger DRILLING EQUIPMENT: CME 85 Rig 4 1/4in I.D./8in O.D. HSA
 SAMPLING METHOD: 2-in Split Spoon/Hammer/liners CH2M GEOLOGIST: Winkler/Rech
 START: _____ FINISH: _____
 NORTHING: 398276.023 feet EASTING: 318308.884 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

8	10-12	Soil	9-8-8-9	16	2	0-1	SAA, moist, medium dense					
11	9	Soil				1-2	Dark yellowish orange (10YR 6/6), moderately sorted, subrounded, coarse SAND, some fine to medium gravel, trace silt, wet, medium dense	SW				
12	10	12-14	Soil	9-8-8-11	16	0-2	Dark yellowish orange (10YR 6/6), moderately sorted, subrounded, fine GRAVEL, some coarse sand, trace silt, wet, medium dense	GM				
14	11	14-16	Soil	8-9-8-8		0-1.7	SAA, wet, medium dense					
16	12	16-18	Soil	7-8-9-7	17	1.2	0-1.2	SAA, wet, medium dense				
18	13	18-20	Soil	5-2-4-2	6	1.2	0-1.2	Moderate reddish brown (10R 4/6), well sorted, subrounded, fine SAND and clay, low plasticity, moist, loose	SC			

NOTES:

msl = mean sea level

bgs = below ground surface

302537

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-02

PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper

SURFACE ELEVATION: 7.18 feet msl TOTAL DEPTH: 8.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400

SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler

START: 10/18/2001 10:30:00 AM FINISH: 10/18/2001 11:30:00 AM

NORTHING: 398542.5613 feet EASTING: 318429.8517 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			2	0-2	Olive gray (5Y 4/1), mottled (few, fine, faint, olive gray), poorly sorted, subrounded, fine to coarse SAND and silt, some fine gravel, dry	SM	0.3		PID(B)=0.0 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=40 cpm
1												
2												
3												
4	2	4-8	Soil			2.5	0-1	SAA		0.3		PID(B)=0.0 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-2	Olive gray (5Y 4/1), well sorted, rounded, fine SAND, moist (NOTE: thin bed of black (N1) fine sand)	SW	0.3		PID(B)=0.0 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							2-2.5	Grayish olive (10Y 4/2), well sorted, rounded, SILT and fine to coarse sand, wet	ML	0.3		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302538

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-04
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.42 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/16/2001 11:00:00 AM FINISH: 10/16/2001 11:30:00 AM
 NORTHING: 398619.146 feet EASTING: 318514.464 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			3.5	0-1.5	Olive gray (5Y 3/2), mottled (many, medium, distinct, olive gray), poorly sorted, subrounded, fine SAND and fine gravel, dry	SW	0.3		PID(B)=1.0 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1.5-3.5	SAA and medium gravel, dry		0.3		PID(B)=2.0 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			3	0-1.5	Moderate olive brown (5Y 4/4), mottled (many, fine, faint, moderate olive brown), well sorted, SILT and fine sand, non-plastic, dry	ML	1		PID(B)=2.0 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1.5-2	Black (N1), mottled (many, medium, distinct, black), poorly sorted, subangular, medium SAND, some fine gravel, moist, thinly bedded (NOTE: 4in of 5Y 7/2 yellowish gray, many, fine, faint, well sorted, silt (ML) some fine sand)	SW	1		PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							2-3	Medium bluish gray (5B 5/1), mottled (many, fine, faint, light bluish gray), well sorted, SILT, trace clay and fine sand, wet	ML	1		PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302539

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-06
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.58 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Winkler
 START: 10/15/2001 1:46:00 PM FINISH: 10/15/2001 2:40:00 PM
 NORTHING: 398685.8321 feet EASTING: 318574.0848 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2	0-0.5	Brownish black (5YR 2/1), mottled (many, medium, prominent, brownish black), poorly sorted, subrounded, medium SAND, some fine gravel, dry	SW	0.9		PID(B)=0.5 ppm, (H)= 0.9 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0.5-1	Medium light gray (N6), mottled (many, coarse, prominent, light gray), well sorted, angular, fine to coarse GRAVEL, dry	GP	0.9		PID(B)=0.5 ppm, (H)=0.9 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1-2	Moderate olive brown (5Y 4/4), mottled (many, medium, prominent, moderate olive brown), poorly sorted, rounded, fine to medium SAND, some fine gravel, dry	SW	0.9		PID(B)=0.5 ppm, (H)=0.9 ppm; RAD(B)= 40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			2	0-1	Black (N1), mottled (many, medium, black), poorly sorted, fine to medium SAND, some fine gravel, moist, thinly bedded	SW	0.3		PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-2	Black (N1), mottled (many, fine, prominent, black), well sorted, SILT, trace fine sand, moist, soft	ML	0.3		PID(H)=0.3 ppm, (H)=0.3 ppm; RAD(H)=40 ppm, (H)=40 ppm
6												
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302540

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-08
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.89 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/16/2001 1:30:00 PM FINISH: 10/16/2001 2:30:00 PM
 NORTHING: 398549.3296 feet EASTING: 318568.1428 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			3	0-0.5 0.5-3	Dark gray (N3), mottled (many, fine, faint, dark gray), poorly sorted, fine SAND, dry (NOTE: wood debris)	SW	0.3		PID(B)=5 ppm, (H)=0.3 ppm; RAD(B)=20 cpm, (H)=20 cpm
1								Dark gray (N3), mottled (many, fine, faint, dark gray), poorly sorted, fine SAND and fine gravel (NOTE: wood debris)	SW	0.3		PID(B)=5 ppm, (H)=0.3 ppm; RAD(B)=20 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			3	0-0.5	SAA, Light brown (5YR 6/4), mottled (many, fine, distinct, light brown), well sorted, medium SAND, little fine gravel, moist, thinly bedded	SP	0.3		PID(B)=2 ppm, (H)=0.3 ppm; RAD(B)=20 cpm, (H)=20 cpm
5							1-2.5	Yellowish gray (5Y 7/2), well sorted, SILT, wet	ML	0.3		PID(B)=2 ppm, (H)=0.3; RAD(B)=20 cpm, (H)=40 cpm
6												
7							2.5-3	Dark gray (N3), mottled (, dark gray), poorly sorted, medium SAND, some fine gravel, little silt, wet	SW			PID(B)=2 ppm, (H)=0.3 ppm; RAD(B)=20 cpm, (H)=20 cpm
8	3	8-12	Soil				0-2.5	SAA		0.3		PID(B)=0.5 ppm, (H)=0.3 ppm; RAD(B)=20 cpm, (H)=20 cpm
9												
10												
11												
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302541

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-09
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.60 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: Mike
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Winkler
 START: 10/15/2001 11:30:00 AM FINISH: 10/15/2001 12:15:00 PM
 NORTHING: 398692.4535 feet EASTING: 318657.4831 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		3	0-1	0-1	Brownish black (5YR 2/1), well sorted, fine SAND and silt, trace fine gravel, dry	SM	3		PID(B) = 0 ppm, (H) = 3 ppm; RAD(B) = 60 cpm, (H) = 60 cpm
1						1-3	1-3	Light olive brown (5Y 5/6), well sorted, medium SAND and fine to coarse gravel, dry (NOTE: pieces of brick, (N1) black poorly sorted sand (SW), all mixed)	SP	7		PID(B)=0.0 ppm, (H)=7 ppm; RAD(B)= 60 cpm, (H)=60 cpm
2												
3												
4	2	4-8	Soil		2	0-1	0-1	Brick and gravel fill		1		PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=60 cpm, (H)=60 cpm
5						1-2	1-2	Grayish black (N2), mottled (many, fine, grayish black), well sorted, rounded, medium SAND, some fine gravel, moist	SP	1		PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=60 cpm, (H)=60 cpm
6												
7												
8	3	8-12	Soil		3	0-3	0-3	Grayish black (N2), mottled (many, fine, grayish black), well sorted, SILT, wet	ML	5		PID(B)=1.0 ppm, (H)=5.0 ppm; RAD(B)=60 cpm, (H)=60 cpm
9												
10												
11												
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302542

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-11
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 8.48 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Winkler
 START: 10/15/2001 2:55:00 PM FINISH: 10/15/2001 4:30:00 PM
 NORTHING: 398584.759 feet EASTING: 318653.8978 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil		4	0-1	Dark yellowish orange (10YR 6/6), mottled (many, fine, prominent, dark yellowish orange), well sorted, subrounded, fine SAND and silt, dry	SM	0.6			PID(B) = 0.3 ppm, (H) = 0.6 ppm; RAD(B) = 60 cpm, (H) = 60 cpm
1						1-2	Black (N1), mottled (many, fine, prominent, dark gray), well sorted, subrounded, fine to coarse SAND and silt, dry	SM	7			PID(B) = 0.6 ppm, (H) = 7 ppm; RAD(B) = 60 cpm, 60 cpm
2						2-4	Black (N1), mottled (common, fine, distinct, dark gray), poorly sorted, fine SAND and silt and fine gravel, dry	SM	4			PID(B) = 0.6 ppm, (H) = 4 ppm; RAD(B) = 60 cpm, (H) = 60 cpm
3												
4	2	4-8	Soil		3	0-1.5	Moderate brown (5YR 4/4), mottled (common, medium, distinct, black), poorly sorted, medium SAND and fine gravel, trace silt, moist	SW	2			PID(B) = 0.3 ppm, (H) = 2 ppm; RAD(B) = 50 cpm, (H) = 50 cpm
5						1.5-2.5	Grayish black (N2), mottled (many, medium, distinct, grayish black), poorly sorted, medium SAND and fine gravel, trace silt, moist	SW				PID(B)=0.3 ppm, (H)=2 ppm; RAD(B)=50 cpm, (H)=5 cpm
6						2.5-3	Brick		2			PID(B)=0.3 ppm, (H)=2.0 ppm; RAD(B)=50 cpm, (H)=50 cpm
7												
8	3	8-12	Soil		4	0-0.5	Brick		0.3			PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(B)=80 cpm, (H)=80 cpm
9					4	0.5-2	Black (N1), mottled (many, coarse, prominent, dark gray), poorly sorted, medium SAND and fine gravel, wet	SW	0.3			PID(B) = 0.3 ppm, (H) = 0.3 ppm; RAD(B) = 80 cpm, (H) = 80 cpm
10						2-3	Light bluish gray (5B 7/1), mottled (many, fine, distinct, grayish blue), well sorted, SILT and fine sand, wet	ML	0.3			PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(B)=80 cpm, (H)=80 cpm
11						3-4	Black (N1), mottled (, black), well sorted, clayey SILT, moist	MH	0.3			PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(B)=80 cpm, (H)=80 cpm
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302543

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-13
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 8.30 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/19/2001 12:00:00 PM FINISH: 10/19/2001 12:40:00 PM
 NORTHING: 398455.0235 feet EASTING: 318639.1195 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2	0-0.5	Dusky yellowish brown (10YR 2/2), mottled (many, fine, distinct, dusky yellowish brown), well sorted, rounded, fine SAND, trace fine gravel, dry	SP	0.1		PID(B)=0.6 ppm, (H)=0.1 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0.5-1	Dark yellowish orange (10YR 6/6), well sorted, subangular, medium SAND, trace fine gravel, dry	SP	0.1		PID(B)=0.6 ppm, (H)=0.1 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1-2	Dark gray (N3), poorly sorted, subangular, medium SAND and fine gravel, dry (NOTE: various fill, brick pieces)	SW	0.1		PID(B)=0.6 ppm, (H)=0.1 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			2	0-2	Dusky brown (5YR 2/2), poorly sorted, subangular, medium SAND and fine to medium gravel, dry	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6												

NOTES:

msl = mean sea level

bgs = below ground surface

302544

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: USEPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-SB-14
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Martin Aaron Proper
SURFACE ELEVATION: 7.56 feet msl **TOTAL DEPTH:** 12.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Direct Push **DRILLING EQUIPMENT:** Simco 2400
SAMPLING METHOD: Acetate Liners **CH2M GEOLOGIST:** Winkler
START: 10/15/2001 10:30:00 AM **FINISH:** 10/15/2001 11:00:00 AM
NORTHING: 398695.0394 feet **EASTING:** 318757.383 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
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0	1	0-4	Soil			3	0-4	Moderate brown (5YR 4/4), mottled (many, prominent, moderate brown), well sorted, rounded, medium SAND, some fine gravel, dry	SP	0		PID(B) = 0 ppm, (H)=0 ppm; RAD(B) = 20 cpm, (H)=20 cpm
1												
2												
3												
4	2	4-8	Soil			2	0-2	Light brownish gray (5YR 6/1), mottled (many, prominent, light brownish gray), well sorted, rounded, fine SAND, trace fine gravel, dry	SP	0		PID(B) = 0 ppm, (H) = 0 ppm; RAD(B) = 40 cpm, (H) = 40 to 60 cpm
5												
6												
7												
8	3	8-12	Soil			2	0-2	Grayish black (N2), mottled (many, prominent, grayish black), well sorted, CLAY, wet, soft	CH	0		PID(B) = 0 ppm, (H) = 0 ppm; RAD(B) = 40 cpm, (H) = 40 to 60 cpm
9												
10												
11												
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302545

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-29
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.30 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 12/12/2001 1:35:00 PM FINISH: 12/12/2001 2:14:00 PM
 NORTHING: 398634.2017 feet EASTING: 318197.3406 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		2.3	0-0.9	0.9-2.3	Olive gray (5Y 3/2), poorly sorted, subangular, medium to coarse GRAVEL, little medium sand, dry	GW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1								Brownish black (5YR 2/1), poorly sorted, subangular, medium to coarse SAND, some silt, little fine to medium gravel, moist	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil		2.2	0-2.6	2.6-3.2	SAA, wet				PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6												
7								Black (N1), well sorted, angular, coarse GRAVEL, little fine sand, little silt, wet	GP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302546

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-31
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 7.60 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/17/2001 1:50:00 PM FINISH: 10/17/2001 3:00:00 PM
 NORTHING: 398520.0099 feet EASTING: 318569.6187 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

0	1	0-4	Soil			2.5	0-1	Olive back (5Y 2/1), mottled (common, olive back), moderately sorted, subrounded, SILT and fine to coarse sand, little fine gravel	ML	10.9		PID(B)=0.3 ppm, (H)=10.9 ppm; RAD(B)=20 cpm, (H)=20 cpm
4	2	4-8	Soil			3	0-3	SAA (NOTE: (3in) thin bed of gravel and brick)		14		PID(B)=0.0 ppm, (H)=14.0 ppm; RAD(B)=20 cpm, (H)=90 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302547

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-42
PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
SURFACE ELEVATION: 6.78 feet msl TOTAL DEPTH: 8.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
START: 10/18/2001 9:30:00 AM FINISH: 10/18/2001 10:15:00 AM
NORTHING: 398380.2864 feet EASTING: 318462.0705 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				

0	1	0-4	Soil			2.5	0-4	Dark yellowish orange (10YR 6/6), well sorted, rounded, clayey SILT, moist	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1												
2												
3												
4	2	4-8	Soil			2	0-1	Dark gray (N3), mottled (many, fine, faint, dark gray), well sorted, rounded, fine SAND and silt, some fine gravel	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-2	Dark yellowish orange (10YR 6/6), well sorted, rounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6												
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302548

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-47
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.64 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/18/2001 8:00:00 AM FINISH: 10/18/2001 8:30:00 AM
 NORTHING: 398422.5553 feet EASTING: 318564.2282 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2	0-0.5	Pale yellowish orange (10YR 8/6), mottled (many, fine, prominent, pale yellowish orange), very well sorted, subrounded, fine SAND, trace fine gravel, dry	SW	0.3		PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0.5-1	SAA, Dark gray (N3)		0.3		PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1-2	Black (N1), well sorted, fine SAND, trace fine gravel, dry	SP	0.3		PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			2	0-1	Black (N1), mottled (many, fine, distinct, black), moderately sorted, subangular, fine SAND and silt, some fine gravel, moist	SP	0.3		PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-1.5	Moderate orange pink (5YR 8/4), mottled (many, fine, prominent, moderate orange pink), well sorted, SILT and fine sand, wet	ML	0.3		PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							1.5-2	Light brown (5YR 6/4), mottled (, light brown), well sorted, SILT and fine sand, wet	ML	0.3		PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302549

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 2

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-47
PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
SURFACE ELEVATION: 6.64 feet msl TOTAL DEPTH: 12.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
START: 10/18/2001 8:00:00 AM FINISH: 10/18/2001 8:30:00 AM
NORTHING: 398422.5553 feet EASTING: 318564.2282 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
9 10 11 12	3	8-12	Soil		3	0-1	0-1	Black (N1), well sorted, SILT, wet	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
						1-2	1-2	Olive gray (5Y 3/2), well sorted, SILT, wet	ML	0		8-9ft organic like odor
						2-3	2-3	Light olive gray (5Y 5/2), well sorted, subrounded, fine to medium SAND, wet	SP			9-10ft organic material visible wood roots and fibers

NOTES:msl = mean sea level
bgs = below ground surface

302550

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-SB-56
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Martin Aaron Proper
SURFACE ELEVATION: 6.78 feet msl **TOTAL DEPTH:** 12.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:** _____
DRILLING METHOD: Direct Push **DRILLING EQUIPMENT:** Simco 2400
SAMPLING METHOD: Acetate Liners **CH2M GEOLOGIST:** Wojciech Winkler
START: 10/16/2001 8:00:00 AM **FINISH:** 10/16/2001 9:30:00 AM
NORTHING: 398518.6821 feet **EASTING:** 318486.4084 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			2	0-1.5	Dark gray (N3), mottled (common, medium, distinct, dark gray), poorly sorted, rounded, medium SAND, some fine gravel, dry	SM	0.3		PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(H)=20 cpm, (H)=20 cpm
1							1.5-2	Light Brown (5YR 5/6), mottled (common, medium, distinct, light brown), poorly sorted, rounded, medium SAND silt, some fine sand, dry	SM	0.3		PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(B)=20 cpm, (H)=20 cpm
2												
3												
4	2	4-8	Soil			2	0-2	Dark gray (N3), mottled (common, medium, distinct, dark gray), poorly sorted, subangular, medium SAND and silt, trace fine gravel, dry	SM	0.3		PID(B)=20 ppm, (H)=0.3 ppm; RAD(B)=20 cpm, (H)=40 cpm
5												
6												
7												
8	3	8-12	Soil			3.5	0-1	SAA, moist		0.3		PID(B)=40 ppm, (H)=0.3 ppm; RAD(B)=20 cpm, (H)=60 cpm
9						3.5	1-1.5	Dark yellowish orange (10YR 6/6), mottled (many, fine, faint, dark yellowish orange), well sorted, subrounded, SILT and fine sand	SM	0.3		PID(B)=2 ppm, (H)=0.3 ppm; RAD(B)=20 cpm, (H)=60 cpm
10							2-3.5	Dark gray (N3), mottled (many, fine, faint, dark gray), well sorted, SILT, wet, soft	ML	0.3		PID(B)=1.0 ppm, (H)=0.3 ppm; RAD(B)=20 cpm, (H)=60 cpm
11												
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302551

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 2

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-60

PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper

SURFACE ELEVATION: 7.06 feet msl TOTAL DEPTH: 7.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400

SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler

START: 10/16/2001 9:50:00 AM FINISH: 10/16/2001 10:40:00 AM

NORTHING: 398564.7766 feet EASTING: 318514.6026 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2.5	0-1	Dark gray (N3), mottled (many, medium, faint, dark gray), poorly sorted, subrounded, medium SAND, some medium gravel, dry	SM	0.3		PID(B)=1.0 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=60 cpm
1							1-2.5	SAA, medium GRAVEL (NOTE: pieces of brick)	GP	0.3		PID(B)=10 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=60 cpm
2												
3												
4	2	4-7	Soil				0-2	Dark gray (N3), mottled (many, fine, faint, black), well sorted, SILT and fine sand, moist, soft	ML	0.3		PID(B)=10 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=60 cpm
5												

NOTES:

msl = mean sea level

bgs = below ground surface

302552

**CH2MHILL**

SOIL BORING LOG

SHEET 2 OF 2

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-60

PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper

SURFACE ELEVATION: 7.06 feet msl TOTAL DEPTH: 7.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400

SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler

START: 10/16/2001 9:50:00 AM FINISH: 10/16/2001 10:40:00 AM

NORTHING: 398564.7766 feet EASTING: 318514.6026 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
6							2-2.5	Light olive brown (5Y 5/6), mottled (many, fine, faint, light olive brown), well sorted, SILT and fine sand, moist, soft	ML	0.3		PID(B)=15 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=60 cpm
7							2.7-3	Black (N1), mottled (many, medium, faint, black), poorly sorted, medium SAND and medium gravel, wet	GW	0.3		PID(B)=15 ppm, (H)=0.3 ppm; RAD(B)=40 cpm, (H)=60 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302553

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-62
 PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
 SURFACE ELEVATION: 6.31 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 12/12/2001 11:10:00 AM FINISH: 12/12/2001 11:45:00 AM
 NORTHING: 398719.8832 feet EASTING: 317909.6461 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		2.6	0-1		Brownish black (5YR 2/1), moderately sorted, subrounded, fine SAND, little fine gravel, dry (NOTE: fill, brick)	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1						1-2.6		Yellowish gray (5Y 7/2), well sorted, rounded, fine SAND, dry	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4												
5	2	4-8	Soil		4	0.5-1.7		Black (N1), well sorted, subrounded, fine SAND, trace silt, moist	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6						1.7-4		Blackish red (5R 2/2), well sorted, subrounded, medium SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302554

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-66
 PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
 SURFACE ELEVATION: 5.75 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Rob Rech
 START: 12/13/2001 12:50:00 PM FINISH: 12/13/2001 1:20:00 PM
 NORTHING: 398304.9778 feet EASTING: 318007.9721 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			2.8	0-1	Olive back (5Y 2/1), poorly sorted, subangular, fine SAND, some silt, trace fine gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1-2	Grayish brown (5YR 3/2), poorly sorted, subangular, fine SAND, some silt, trace fine gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2							2-3	Light Brown (5YR 5/6), poorly sorted, subangular, medium SAND, little clay, wet, firm	SC	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
3												
4	2	4-8	Soil			2.8	0-1	Moderate orange pink (5YR 8/4), poorly sorted, CLAY and silt, medium plasticity, wet, firm	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-2	Moderate brown (5YR 3/4), poorly sorted, subangular, medium SAND, little silt, trace fine gravel, wet, medium dense	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							2-3	Grayish black (N2), poorly sorted, CLAY, little fine sand, high plasticity, moist, stiff	CH	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302555

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-SB-67
PROJECT NAME: EPA-Martin Aaron **LOCATION:** South Jersey Port
SURFACE ELEVATION: 6.39 feet msl **TOTAL DEPTH:** 8.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:** _____
DRILLING METHOD: Direct Push **DRILLING EQUIPMENT:** Simco 2400
SAMPLING METHOD: Acetate Liners **CH2M GEOLOGIST:** Wojciech Winkler
START: 12/12/2001 1:00:00 PM **FINISH:** 12/12/2001 1:32:00 PM
NORTHING: 398691.0465 feet **EASTING:** 318025.6705 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		2.5	0-4		Light olive gray (5Y 5/2), well sorted, subrounded, fine SAND, some silt, little clay, dry	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1												
2												
3												
4	2	4-8	Soil		2.7	0-1		SAA, moist (NOTE: some fill, brick pieces)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6												
7												
8												
						1-2.7		Black (N1), moderately sorted, subangular, fine to medium SAND, little silt, some fine gravel, wet	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302556

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-SB-68
PROJECT NAME: EPA-Martin Aaron **LOCATION:** South Jersey Port
SURFACE ELEVATION: 6.48 feet msl **TOTAL DEPTH:** 6.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:** _____
DRILLING METHOD: Direct Push **DRILLING EQUIPMENT:** Simco 2400
SAMPLING METHOD: Acetate Liners **CH2M GEOLOGIST:** Rob Rech
START: 12/13/2001 9:40:00 AM **FINISH:** 12/13/2001 10:15:00 AM
NORTHING: 398578.0906 feet **EASTING:** 318042.2389 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		2.8	0-1	0-1	Olive back (5Y 2/1), moderately sorted, subangular, SILT and medium sand and medium gravel, moist, medium dense	GM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1						1-2	1-2	Dark yellowish orange (10YR 6/6), poorly sorted, subangular, fine SAND and silt, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2						2-3	2-3	Dark yellowish brown (10YR 4/2), poorly sorted, subangular, fine SAND and silt, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
3												
4	2	4-8	Soil		2	0-1.5	0-1.5	Light Brown (5YR 5/6), poorly sorted, subangular, medium SAND and silt, some fine gravel, moist, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6												

NOTES:

msl = mean sea level

bgs = below ground surface

302557

**CH2MHILL**

SOIL BORING LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-69
PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
SURFACE ELEVATION: 7.49 feet msl TOTAL DEPTH: 8.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
START: 12/12/2001 9:35:00 AM FINISH: 12/12/2001 10:00:00 AM
NORTHING: 398751.4293 feet EASTING: 318178.4221 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		2.3	0-0.9	Moderate olive brown (5Y 4/4), well sorted, subrounded, fine SAND, trace fine gravel, dry	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1						0.9-2.3	Black (N1), moderately sorted, subangular, medium SAND, some fine to medium gravel, dry	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2											
3											
4											
5											
6											
7											
8											

NOTES:

msl = mean sea level
bgs = below ground surface

302558

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-71
 PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
 SURFACE ELEVATION: 6.91 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Rob Rech
 START: 12/13/2001 12:12:00 PM FINISH: 12/13/2001 12:30:00 PM
 NORTHING: 398440.0226 feet EASTING: 318115.5259 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2.1	0-0.5	Olive back (5Y 2/1), poorly sorted, subangular, medium SAND, trace silt, trace fine gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0.5-3	Greenish black (5GY 2/1), mottled (common, medium, distinct, medium light gray), poorly sorted, SILT, little clay, slight plasticity, dry, stiff	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
3							3-3.5	Olive back (5Y 2/1), poorly sorted, subangular, medium SAND, little silt, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
4	2	4-8	Soil			2.3	0-1	Dark yellowish orange (10YR 6/6), poorly sorted, subangular, medium SAND, little silt, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-2	Olive gray (5Y 3/2), moderately sorted, medium SAND, little silt, some fine to medium gravel, moist, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6												
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302559

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-72
 PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
 SURFACE ELEVATION: 6.98 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Rob Rech
 START: 12/13/2001 1:30:00 PM FINISH: 12/13/2001 2:00:00 PM
 NORTHING: 398301.4799 feet EASTING: 318116.2019 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		2.6	0-1	0-1	Olive back (5Y 2/1), moderately sorted, subangular, medium to coarse SAND, little fine to medium gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1-2	Dark yellowish brown (10YR 4/2), moderately sorted, subangular, medium SAND, little silt, trace fine to medium gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2							2-2.5	Dark yellowish brown (10YR 4/2), poorly sorted, subangular, fine SAND, some silt, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
3												
4	2	4-8	Soil		2.6	0-1	0-1	Moderate brown (5YR 4/4), moderately sorted, subangular, medium SAND, some silt, little fine to medium gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-2	Grayish brown (5YR 3/2), moderately sorted, subangular, medium SAND, some silt, little fine to medium gravel, moist, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							2-3	Dark yellowish orange (10YR 6/6), poorly sorted, subangular, fine SAND, little silt, moist, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8	3	8-12	Soil		3.6	0-2	0-2	Olive back (5Y 2/1), well sorted, subangular, fine to medium SAND, some silt, moist, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
9												
10							2-4	Dusky yellow (5Y 6/4), well sorted, subangular, fine SAND, trace silt, trace fine gravel, moist, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
11												
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302560

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-75
 PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
 SURFACE ELEVATION: 7.21 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 12/12/2001 8:45:00 AM FINISH: 12/12/2001 9:30:00 AM
 NORTHING: 398761.2648 feet EASTING: 318318.5965 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6" 6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2.3	0-1	Moderate olive brown (5Y 4/4), well sorted, subrounded, fine SAND, trace medium gravel, dry	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1-2.3	Black (N1), moderately sorted, subangular, fine to medium SAND, some medium gravel, dry (NOTE: black pieces of cinder, fly ash)	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			1.5	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-1.5	Moderate yellowish brown (10YR 5/4), well sorted, subrounded, fine SAND, trace silt, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6												
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302561

**CH2MHILL**

SOIL BORING LOG

SHEET 1 OF 1

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-77

PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port

SURFACE ELEVATION: 7.02 feet msl TOTAL DEPTH: 8.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400

SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler

START: 12/12/2001 2:23:00 PM FINISH: 12/12/2001 3:00:00 PM

NORTHING: 398580.5931 feet EASTING: 318312.4344 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		2.4	0-0.6	0-0.6	Black (N1), well sorted, subrounded, medium SAND, some silt, little medium gravel, dry	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=60 cpm, (H)=60 cpm
1						0.6-2.4		Grayish orange pink (10R 8/2), moderately sorted, subangular, medium to coarse SAND, little silt, little medium gravel	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=60 cpm, (H)=60 cpm
2												
3												
4	2	4-8	Soil		2.9	0-2.9	0-2.9	Olive gray (5Y 3/2), well sorted, subangular, fine to medium SAND, little silt, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=60 cpm, (H)=60 cpm
5												
6												
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302562

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-SB-78
PROJECT NAME: EPA-Martin Aaron **LOCATION:** South Jersey Port
SURFACE ELEVATION: 7.45 feet msl **TOTAL DEPTH:** 6.50 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Direct Push **DRILLING EQUIPMENT:** Simco 2400
SAMPLING METHOD: Acetate Liners **CH2M GEOLOGIST:** Rob Rech
START: 12/13/2001 10:15:00 AM **FINISH:** 12/13/2001 11:00:00 AM
NORTHING: 398489.034 feet **EASTING:** 318313.6424 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2.2	0-1	Moderate brown (5YR 4/4), moderately sorted, subangular, SILT and fine sand, trace fine gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1-2	Yellowish gray (5Y 8/1), poorly sorted, subangular, fine SAND, some silt, little fine to coarse gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			2.6	0-1.5	Moderate yellowish brown (10YR 5/4), poorly sorted, subangular, medium SAND and silt, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1.5-2	Moderate yellowish brown (10YR 5/4), poorly sorted, fine SAND, little clay, moist, medium dense	SC	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							2-2.5	Moderate yellowish brown (10YR 5/4), poorly sorted, subangular, fine SAND, little silt, wet, medium dense	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm

NOTES:

msl = mean sea level
 bgs = below ground surface

302563

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-79
 PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
 SURFACE ELEVATION: 7.69 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Rob Rech
 START: 12/13/2001 2:10:00 PM FINISH: 12/13/2001 3:00:00 PM
 NORTHING: 398359.1232 feet EASTING: 318278.5745 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2.8	0-1	Pale yellowish brown (10YR 6/2), moderately sorted, subangular, fine SAND, some silt, trace fine gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1-2	Dark yellowish brown (10YR 4/2), moderately sorted, subangular, fine SAND, some silt, trace fine gravel, moist, medium dense	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2							2-3	Dark yellowish brown (10YR 4/2), moderately sorted, subangular, fine SAND, little silt, moist, medium dense	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
3												
4	2	4-8	Soil			2.6	0-1	Greenish gray (5G 6/1), mottled (few, medium, distinct, dark yellowish orange), moderately sorted, SILT, trace fine sand, slight plasticity, moist, firm	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-3	Olive gray (5Y 4/1), moderately sorted, subangular, fine SAND, some silt, trace fine gravel, moist, medium dense	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6												
7												
8												

NOTES:

msl = mean sea level
 bgs = below ground surface

302564

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-81
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper - off Broadway
 SURFACE ELEVATION: 7.11 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Cindy DiSante
 START: 10/18/2001 2:10:00 PM FINISH: 10/18/2001 3:00:00 PM
 NORTHING: 398671.7565 feet EASTING: 318405.8458 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			1.5	0-1.5	Dusky brown (5YR 2/2), poorly sorted, subrounded, fine SAND and silt, some fine gravel, dry	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
1												
2												
3												
4	2	4-8	Soil			2.5	0-1	SAA, moist		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
5							1-2.5	SAA, wet		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
6												
7												
8												

NOTES:

msl = mean sea level
 bgs = below ground surface

302565

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-SB-82
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Martin Aaron Proper - off Broadway
SURFACE ELEVATION: 7.04 feet msl **TOTAL DEPTH:** 8.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Direct Push **DRILLING EQUIPMENT:** Simco 2400
SAMPLING METHOD: Acetate Liners **CH2M GEOLOGIST:** Wojciech Winkler
START: 10/19/2001 8:00:00 AM **FINISH:** 10/19/2001 8:30:00 AM
NORTHING: 398593.5231 feet **EASTING:** 318404.9155 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			1.5	0-0.1 0.1-1.5	CONCRETE (NOTE: concrete pad) Black (N1), poorly sorted, subangular, medium SAND, some fine gravel, little silt, dry (NOTE: appears to be fill)	SW	0 0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=30 cpm, (H)=30 cpm PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=30 cpm, (H)=30 cpm
4	2	4-8	Soil			1.5	0-0.5 0.5-1 1-1.5	SAA, mottled (, pale yellowish orange) (NOTE: appears to be fill) BRICK (NOTE: red brick and gravel) Black (N1), well sorted, angular, fine to coarse GRAVEL, wet (NOTE: fibrous decomposing wood debris)	0 0 0			PID(B)=0.6 ppm, (H)=0.0 ppm; RAD(B)=10 cpm, (H)=10 cpm PID(B)=0.6 ppm, (H)=0.0 ppm; RAD(B)=10 cpm, (H)=10 cpm PID(B)=0.6 ppm, (H)=0.0 ppm; RAD(B)=10 cpm, (H)=10 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302566

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-85
 PROJECT NAME: EPA-Martin Aaron LOCATION: Camarco
 SURFACE ELEVATION: 7.53 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Rob Rech
 START: 12/18/2001 8:20:00 AM FINISH: 12/18/2001 8:45:00 AM
 NORTHING: 398322.0239 feet EASTING: 318418.7645 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		2.6	0-0.5	0-0.5	Dark yellowish brown (10YR 4/2), moderately sorted, subangular, fine SAND, some fine to medium gravel, dry, loose	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1						0.5-3	0.5-3	Olive back (5Y 2/1), well sorted, subangular, fine SAND, little silt, dry, loose (NOTE: some brick debris)	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil		2.8	0-2	0-2	Dark yellowish orange (10YR 6/6), moderately sorted, subrounded, fine SAND and silt, moist, medium dense	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6						2-3	2-3	Dark yellowish orange (10YR 6/6), well sorted, subrounded, fine SAND, some silt, wet, medium dense	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302567

**CH2MHILL**

SOIL BORING LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-96
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper - off Sixth Street
 SURFACE ELEVATION: 5.79 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/22/2001 10:00:00 AM FINISH: 10/22/2001 11:00:00 AM
 NORTHING: 398748.1704 feet EASTING: 318857.0096 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2	0-0.5	Grayish black (N2), moderately sorted, SILT and fine sand, dry	ML	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							0.5-2	Grayish black (N2), mottled (many, fine, distinct, grayish black), moderately sorted, subrounded, fine SAND and silt, some fine gravel, dry	SM	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			2	0-1	SAA, moist		0.5		PID(B)=5.0 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-2	Grayish black (N2), poorly sorted, subangular, fine GRAVEL, some silt, some fine gravel, wet (NOTE: petroleum like odor at 5ft)	SM	0.5		PID(B)=5.0 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
6												
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302568

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-97
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper - off Sixth Street
 SURFACE ELEVATION: 5.89 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/22/2001 11:00:00 AM FINISH: 10/22/2001 11:45:00 AM
 NORTHING: 398681.2242 feet EASTING: 318854.3253 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			2	0-0.5	Medium light gray (N6), well sorted, medium GRAVEL, dry	GP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0.5-1	Black (N1), moderately sorted, fine SAND, some silt, little fine gravel, dry	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1-2	Moderate brown (5YR 4/4), mottled (many, fine, faint, moderate brown), well sorted, fine SAND, little fine gravel, dry	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil				0-0.5	Olive gray (5Y 3/2), well sorted, fine SAND	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							0.5-1	Olive gray (5Y 3/2), well sorted, fine SAND and clay, moist	SM	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							1-2	Yellowish gray (5Y 7/2), mottled (many, fine, faint, yellowish gray), moderately sorted, fine SAND and silt, little fine gravel, wet	SM	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302569

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-98
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper - off Sixth Street
 SURFACE ELEVATION: 5.84 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/22/2001 12:45:00 PM FINISH: 10/22/2001 1:30:00 PM
 NORTHING: 398588.6621 feet EASTING: 318853.7257 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/ID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			2	0-0.5	Grayish black (N2), well sorted, fine SAND and silt, little fine gravel, dry (NOTE: layer (3in) of medium angular gravel)	SM	0.5		PID(B)=0.9 ppm, (H)=0.5 ppm; RAD(B)=70 cpm, (H)=40 cpm
							0.5-1.5	Grayish black (N2), mottled (many, fine, distinct, grayish black), well sorted, subangular, fine SAND, some silt, little fine gravel, dry	SP	0.5		PID(B)=0.9 ppm, (H)=0.5 ppm; RAD(B)=70 cpm, (H)=40 cpm
1							1.5-2	Moderate brown (5YR 3/4), mottled (many, fine, faint, moderate brown), well sorted, subangular, fine SAND and silt, little fine gravel, dry	SM	0.5		PID(B)=0.9 ppm, (H)=0.5 ppm; RAD(B)=70 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			2.5	0-1	Moderate olive brown (5Y 4/4), mottled (many, fine, faint, moderate olive brown), well sorted, fine SAND, some silt, moist	SP	0.5		PID(B)=1.2 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-2.5	Dark gray (N3), poorly sorted, subangular, fine SAND and silt, some fine gravel	SM	0.5		PID(B)=1.2 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
6												
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302570

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-SB-106
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Sixth Street
SURFACE ELEVATION: 6.63 feet msl **TOTAL DEPTH:** 8.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:** _____
DRILLING METHOD: Direct Push **DRILLING EQUIPMENT:** Simco 2400
SAMPLING METHOD: Acetate Liners **CH2M GEOLOGIST:** Wojciech Winkler
START: 10/22/2001 9:30:00 AM **FINISH:** 10/22/2001 10:00:00 AM
NORTHING: 398707.9053 feet **EASTING:** 318895.0109 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil		2.5	0-0.2 0.2-2	CONCRETE	Grayish black (N2), mottled (many, fine, faint, grayish black), poorly sorted, subangular, medium SAND, some silt, little fine gravel, dry	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1												
2						2-2.5	Moderate brown (5YR 4/4), mottled (many, fine, faint, moderate brown), poorly sorted, subangular, medium SAND, little silt, some fine gravel, dry	SW	0			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
3												
4	2	4-8	Soil		2	0-0.5	SAA			0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5						0.5-1.5	Grayish black (N2), mottled (many, fine, faint, dark gray), poorly sorted, subangular, medium SAND, little silt, some fine gravel, moist	SW	0			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6						1.5-2	Light brownish gray (5YR 6/1), poorly sorted, subangular, fine SAND and silt, some fine gravel	SM	0			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level
 bgs = below ground surface

302571

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 2

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-108
PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth Street
SURFACE ELEVATION: 9.60 feet msl TOTAL DEPTH: 8.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
START: 10/22/2001 8:20:00 AM FINISH: 10/22/2001 9:00:00 AM
NORTHING: 398539.8106 feet EASTING: 318892.1235 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil		2.5	0-0.1	0-0.1	ASPHALT		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
						0.1-0.5	0.1-0.5	Medium gray (N5), well sorted, angular, fine GRAVEL, dry	GP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
						0.5-2	0.5-2	Black (N1), mottled (, fine, faint, black), moderately sorted, fine SAND and fine gravel and silt, moist, thinly bedded (NOTE: moderate yellowish brown (10YR 2/2) well sorted, fine sand (SP), moist)	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1												
2												
3												
4	2	4-8	Soil		2.5	0-1.5	0-1.5	SAA, moist		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=60 cpm

NOTES:

msl = mean sea level

bgs = below ground surface

302572

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 2

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-108

PROJECT NAME: EPA-Martin Aaron LOCATION: Sixth Street

SURFACE ELEVATION: 9.60 feet msl TOTAL DEPTH: 8.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400

SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler

START: 10/22/2001 8:20:00 AM FINISH: 10/22/2001 9:00:00 AM

NORTHING: 398539.8106 feet EASTING: 318892.1235 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
5						1.5-2	Pale brown (5YR 5/2), poorly sorted, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
6						2-2.5	Grayish black (N2), well sorted, fine SAND and clay, wet, thinly bedded (NOTE: (4in) grayish brown (5YR 3/2) decomposed wood debris, wet)	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
7											
8											

NOTES:

msl = mean sea level

bgs = below ground surface

302573

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-112
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.93 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/17/2001 3:30:00 PM FINISH: 10/17/2001 4:00:00 PM
 NORTHING: 398479.7164 feet EASTING: 318477.5657 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		1.5	0-0.5	0-0.5	Moderate brown (5YR 4/4), poorly sorted, subangular, medium SAND, some fine gravel, trace silt, dry (NOTE: wood chunks)	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1						0.5-1.5		WOOD (NOTE: wood chunks)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil		1	0-4	0-4	Black (N1), mottled (many, fine, faint, black), poorly sorted, subrounded, fine SAND, some fine gravel, some silt, wet	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=60 cpm, (H)=60 cpm
5												
6												
7												
8	3	8-12	Soil		3	0-4	0-4	Dark gray (N3), well sorted, SILT, wet	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=60 cpm, (H)=60 cpm
9												
10												
11												
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302574

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-118
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 10.80 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/18/2001 11:45:00 AM FINISH: 10/18/2001 12:30:00 PM
 NORTHING: 398446.2187 feet EASTING: 318690.1397 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		1.5	0-1		Dark gray (N3), well sorted, subangular, fine SAND and silt, trace fine gravel	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1						1-1.5		BRICK, dry (NOTE: red brick debris)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil		1.5	0-1.5		BRICK, dry (NOTE: red brick debris)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6												
7												
8	3	8-12	Soil		3	0-2		Dark gray (N3), mottled (many, fine, distinct, dark gray), well sorted, subrounded, fine to coarse SAND and silt, trace fine gravel, moist	SM	0.3		PID(B)=0.3 ppm, (H)=0.3 ppm; RAD(B)=40 ppm, (H)=40 ppm
9												
10						2-2.5		SAA, wet		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
11						2.5-3		Dark gray (N3), well sorted, interbedded, SILT and fine sand, wet (NOTE: (3in) of dark gray (N3), not mottled, well sorted, sandy silt (ML), wet)	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302575

**CH2MHILL**

SOIL BORING LOG

SHEET 1 OF 1

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-120

PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper

SURFACE ELEVATION: 8.76 feet msl TOTAL DEPTH: 8.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400

SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler

START: 10/16/2001 2:45:00 PM FINISH: 10/16/2001 3:45:00 PM

NORTHING: 398536.2185 feet EASTING: 318715.8159 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2.5	0-1	Dark gray (N3), poorly sorted, rounded, fine SAND, some fine gravel, dry	SP	0.5		PID(B)=3.0 ppm, (H)=0.5 ppm; RAD(B)=20 cpm, (H)=40 cpm
1							1-2.5	SAA, SILT (NOTE: man made elastic material (4ft) drove down to 8ft but minimal recovery, loose fill, brick pieces; moved hole twice, same result, no sample to indicate water level, redo hole was done with MSA and split spoon)	ML	0.5		PID(B)=1 ppm, (H)=0.5 ppm; RAD(B)=20 cpm, (H)=40 cpm
2												
3												
4												
5												
6												
7												
8												

NOTES:

msl = mean sea level
bgs = below ground surface

302576

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-SB-120A
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Martin Aaron Proper
SURFACE ELEVATION: feet msl **TOTAL DEPTH:** 8.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Direct Push **DRILLING EQUIPMENT:** Simco 2400
SAMPLING METHOD: Acetate Liners **CH2M GEOLOGIST:** Cindy DiSante
START: 10/19/2001 8:50:00 AM **FINISH:** 10/19/2201 9:40:00 AM
NORTHING: feet **EASTING:** feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2.5	0-1	Dark gray (N3), rounded, fine SAND, some fine gravel, dry	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=30 cpm, (H)=30 cpm
1							1-2	Greenish gray (5GY 6/1), well sorted, rounded, clayey SILT, trace fine gravel, dry (NOTE: brick)	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=30 cpm, (H)=30 cpm
2							2-2.5	Black (N1), moderately sorted, rounded, fine SAND and silt, trace fine gravel, dry (NOTE: fibrous material-moist likely paper-found at 2ft bgs)	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=30 cpm, (H)=30 cpm
3												
4	2	4-8	Soil			1.5	0-1	Olive back (5Y 2/1), mottled (common, medium, distinct, olive back), poorly sorted, fine SAND and silt, little fine gravel, dry (NOTE: brick debris)	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=30 cpm, (H)=30 cpm
5							1-1.5	SAA, wet		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=30 cpm, (H)=30 cpm
6												
7												
8												

NOTES:

msl = mean sea level
 bgs = below ground surface

302577

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-122
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 8.34 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/16/2001 4:46:00 PM FINISH: 10/16/2001 6:00:00 PM
 NORTHING: 398561.7639 feet EASTING: 318773.1533 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			2	0-1	Light olive brown (5Y 5/6), mottled (common, medium, distinct, light olive brown), poorly sorted, subangular, medium SAND and medium gravel, dry	SP	0.5		PID(B)=1.0 ppm, (H)=0.5 ppm; RAD(B)=20 cpm, (H)=20 cpm
1							1-1.5	Grayish green (5G 5/2), SILT, dry, stiff	ML	0.5		PID(B)=1.0 ppm, (H)=0.5 ppm; RAD(B)=20 cpm, (H)=20 cpm
2							1.5-2	Black (N1), well sorted, medium SAND and silt, trace fine to medium gravel, dry	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=20 cpm, (H)=20 cpm
3												
4	2	4-8	Soil			2.5	0-1	SAA		0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-2	Yellowish gray (5Y 7/2), well sorted, subrounded, fine SAND, some silt, moist, thinly bedded (NOTE: black (N1), very pale blue (5B 8/2))	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							2-2.5	Very pale blue (5B 8/2), well sorted, SILT, little fine sand, moist	ML	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8	3	8-10	Soil			3.5	0-0.5	Black (N1), well sorted, medium SAND and silt, trace fine to medium gravel, moist	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
9							0.5-3.5	Dark gray (N3), SILT, wet	ML	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
10												
11												
12												

NOTES:

msl = mean sea level
 bgs = below ground surface

302578

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-124
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 8.11 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/17/2001 8:20:00 AM FINISH: 10/17/2001 9:30:00 AM
 NORTHING: 398497.9374 feet EASTING: 318772.9534 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			3	0-1	Dusky yellow (5Y 6/4), mottled (many, fine, faint, dusky yellow), moderately sorted, rounded, fine SAND, little fine gravel, little fine to coarse sand, dry	SW	0.1		PID(B)=0.1 ppm, (H)=0.1 ppm; RAD(B)=40 cpm, (H)=40 cpm
1												
2							2-3	Black (N1), poorly sorted, subangular, fine SAND, little fine gravel, little silt, dry	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
3												
4	2	4-8	Soil			3.5	0-0.5	SAA, moist		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							0.5-2	Moderate brown (5YR 4/4), mottled (many, fine, faint, moderate brown), poorly sorted, rounded, fine SAND, some fine to coarse gravel, little silt, wet, thinly bedded (NOTE: 2in dusky yellow green (5GY 5/2) silty sand, wet)	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							2-2.5	Black (N1), poorly sorted, medium SAND and fine gravel, wet	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
7							2.5-3.5	Pale yellowish green (10GY 7/2), mottled (many, fine, faint, pale yellowish green), well sorted, rounded, SILT and fine to coarse sand, wet	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302579

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-130
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 6.46 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/17/2001 11:30:00 AM FINISH: 10/17/2001 12:00:00 PM
 NORTHING: 398520.1999 feet EASTING: 318833.9259 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		1.5	0-1.5	Olive gray (5Y 3/2), poorly sorted, SILT and fine sand, some fine gravel, dry (NOTE: 0-1.5ft organic material-wood and root debris)	SW	0.4		PID(B)=0.4 ppm, (H)=0.4 ppm; RAD(B)=40 cpm, (H)=40 cpm
1											
2											
3											
4	2	4-8	Soil		2	0-1	Black (N1), well sorted, SILT and fine to coarse sand, moist, thinly bedded (NOTE: 10YR 5/4 moderate yellowish brown, sandy silt (ML), moist)	ML	0.4		PID(B)=2 ppm, (H)=0.4 ppm; RAD(B)=40 cpm, (H)=40 cpm
5						1-2	Black (N1), well sorted, SILT, moist, soft	ML	0.4		PID(B)=17 ppm, (H)=0.4 ppm; RAD(B)=40 cpm, (H)=40 cpm
6											
7											
8	3	8-12	Soil			0-1	SAA, wet		0.4		PID(B)=10 ppm, (H)=0.4 ppm; RAD(B)=40 cpm, (H)=40 cpm
9						1-4	Dark gray (N3), well sorted, SILT, wet, soft	ML	0.5		PID(B)=20 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
10											
11											
12											

NOTES:

msl = mean sea level

bgs = below ground surface

302580

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SB-131
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 8.57 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Cindy DiSante
 START: 10/19/2001 9:45:00 AM FINISH: 10/19/2001 10:40:00 AM
 NORTHING: 398452.1969 feet EASTING: 318836.5064 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil		2	0-1	Dark yellowish orange (10YR 6/6), well sorted, fine SAND, trace fine gravel, moist	SP	0			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
1						1-2	Dark gray (N3), moderately sorted, fine SAND, some silt, little fine gravel, dry	SM	0			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
2												
3												
4	2	4-8	Soil		3	0-0.5	Dark gray (N3), poorly sorted, fine SAND, some silt, some fine gravel, dry	SM	0.3			PID(B)=0.0 ppm, (H)=0.3 ppm; RAD(B)=10 cpm, (H)=10 cpm
5						0.5-1.5	Dark reddish brown (10R 3/4), mottled (common, fine, faint, dark reddish brown), well sorted, subangular, fine to coarse SAND and silt, trace fine gravel, moist	SM	0.3			PID(B)=0.0 ppm, (H)=0.3 ppm; RAD(B)=10 cpm, (H)=10 cpm
6						1.5-2	Black (N1), well sorted, fine SAND, trace fine gravel, wet	SP	0			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=10 cpm, (H)=10 cpm
7												
8	3	8-12	Soil		3	0-3	Black (N1), very well sorted, well rounded, SILT and clay, wet	MH	5			PID(B)=0.0 ppm, (H)=5.0 ppm; RAD(B)=20 cpm, (H)=20 cpm
9												
10												
11												
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302581

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-201
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper
 SURFACE ELEVATION: 10.53 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/17/2001 9:45:00 AM FINISH: 10/17/2001 11:00:00 AM
 NORTHING: 398439.0105 feet EASTING: 318785.754 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			2.5	0-0.75	Dark yellowish orange (10YR 6/6), well sorted, rounded, medium SAND, dry	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40cpm
1							0.75-2.5	Black (N1), poorly sorted, medium SAND and fine gravel, dry (NOTE: 2 ft found 3-inch thick piece of elastic white solid substance)	SW	0.5		PID(B)=100 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil				0-1	SAA, moist		0.5		PID(B)=20 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 ppm
5							1-2	Dark gray (N3), poorly sorted, coarse SAND, some fine gravel, some silt, wet (NOTE: thin bed (3 inches) of yellowish brown, organic silt (ML))	SW	0.5		PID(B)=60 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							2-3	Black (N1), poorly sorted, medium SAND and fine gravel, some silt (NOTE: 6 ft organic silt, visible root strands)	SW	0.5		PID(B)=60 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302582

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 2

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-202
 PROJECT NAME: EPA-Martin Aaron LOCATION: Ponte Property
 SURFACE ELEVATION: 8.19 feet msl TOTAL DEPTH: 16.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 12/14/2001 8:00:00 AM FINISH: 12/14/2001 9:30:00 AM
 NORTHING: 398256.3674 feet EASTING: 318719.3708 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2.3	0-0.5	Black (N1), well sorted, subrounded, medium SAND and silt, dry	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
							0.5-1	Moderate red (5R 4/6), well sorted, angular, medium GRAVEL, dry	GP	5		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
1							1-2.3	Pale yellowish brown (10YR 6/2), well sorted, subrounded, fine SAND, dry	SP			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
2												
3												
4	2	4-8	Soil			3.1	0-2.1	Light olive gray (5Y 5/2), well sorted, subrounded, medium to coarse SAND and clay, little medium gravel, dry	SC	5		PID(B)=2.0 ppm, (H)=5.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6							2.1-3	Dark yellowish orange (10YR 6/6), well sorted, subrounded, fine to medium SAND, trace silt, moist	SP	5		PID(B)=2.0 ppm, (H)=5.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8	3	8-12	Soil			2.7	0-2.7	SAA		5		PID(B)=2.0 ppm, (H)=5.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
9												

NOTES:

msl = mean sea level

bgs = below ground surface

302583

**CH2MHILL****SOIL BORING LOG**

SHEET 2 OF 2

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-202
PROJECT NAME: EPA-Martin Aaron LOCATION: Ponte Property
SURFACE ELEVATION: 8.19 feet msl TOTAL DEPTH: 16.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
START: 12/14/2001 8:00:00 AM FINISH: 12/14/2001 9:30:00 AM
NORTHING: 398256.3674 feet EASTING: 318719.3708 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
10												
11												
12	4	12-16	Soil			3.5	0-0.5	SAA, trace coarse gravel		7		PID(B)=2.0 ppm, (H)=7.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
13							0.5-3.5	Moderate brown (5YR 4/4), mottled (many, fine, prominent, yellowish gray), well sorted, subrounded, intermixed, CLAY and silt, wet	CL	7		PID(B)=2.0 ppm, (H)=7.0 ppm; RAD(B)=40 cpm, (H)=60 cpm
14												
15												
16												

NOTES:

msl = mean sea level

bgs = below ground surface

302584

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-203
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper - off Sixth Street
 SURFACE ELEVATION: 5.81 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/19/2001 11:00:00 AM FINISH: 10/19/2001 11:45:00 AM
 NORTHING: 398404.2711 feet EASTING: 318847.6152 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-8"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			2	0-1	Black (N1), poorly sorted, subangular, fine SAND, little fine gravel, dry	SP	0		PID(B)=0.5 ppm, (H)=0.0 ppm; RAD(B)=100 cpm, (H)=30 cpm
1							1-2	Very pale orange (10YR 8/2), mottled (common, fine, faint, very pale orange), moderately sorted, subangular, fine SAND, little fine gravel, dry	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=80 cpm, (H)=30 cpm
2												
3												
4	2	4-8	Soil			2	0-1.5	Dark gray (N3), poorly sorted, fine SAND and medium gravel, dry	SW	0.5		PID(B)=1 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1.5-2	Black (N1), well sorted, rounded, SILT, wet (NOTE: petroleum like odor at 5.5ft)	ML	0.5		PID(B)=1 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
6												
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302585

**CH2MHILL**

SOIL BORING LOG

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-SO-204
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Camarco, South of Property
SURFACE ELEVATION: 7.83 feet msl **TOTAL DEPTH:** 12.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Direct Push **DRILLING EQUIPMENT:** Simco 2400
SAMPLING METHOD: Acetate Liners **CH2M GEOLOGIST:** Wojciech Winkler
START: 12/17/2001 8:55:00 AM **FINISH:** 12/17/2001 9:20:00 AM
NORTHING: 398199.1739 feet **EASTING:** 318596.4917 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		2.4	0-4		Moderate olive brown (5Y 4/4), poorly sorted, subangular, medium SAND, some fine gravel, little medium gravel, dry	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1												
2												
3												
4	2	4-8	Soil		2.9	0-2		SAA, moist		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6												
7												
8	3	8-12	Soil			0-4		Moderate olive brown (5Y 4/4), well sorted, subrounded, fine SAND, some silt, wet	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
9												
10												
11												
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302586

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-SO-206
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Camarco Parking Lot, South End
SURFACE ELEVATION: 6.49 feet msl **TOTAL DEPTH:** 12.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:**
DRILLING METHOD: Direct Push **DRILLING EQUIPMENT:** Simco 2400
SAMPLING METHOD: Acetate Liners **CH2M GEOLOGIST:** Wojciech Winkler
START: 12/17/2001 7:40:00 AM **FINISH:** 12/17/2001 8:05:00 AM
NORTHING: 398260.5719 feet **EASTING:** 318405.9555 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2	0-4	Dusky yellow (5Y 6/4), well sorted, subrounded, fine to medium SAND, some fine gravel, little silt, dry	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1												
2												
3												
4	2	4-8	Soil			2.4	0-4	Dark yellowish orange (10YR 6/6), well sorted, subrounded, fine to medium SAND, medium plasticity, moist (NOTE: 2in layer of clay and silt (CL))	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6												
7												
8	3	8-12	Soil				0-4	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
9												
10												
11												
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302587

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-207
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper - off Sixth Street
 SURFACE ELEVATION: 6.46 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: _____
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: _____
 START: 10/22/2001 1:30:00 PM FINISH: 10/22/2001 11:05:00 AM
 NORTHING: 398327.1455 feet EASTING: 318843.9659 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			2.6	0-0.5	Dark yellowish brown (10YR 4/2), mottled (many, fine, faint, dark yellowish brown), moderately sorted, subrounded, fine SAND and silt, some fine gravel, dry	SM	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=20 cpm, (H)=20 cpm
1							0.5-1.5	Moderate yellowish brown (10YR 5/4), well sorted, rounded, fine SAND and silt, moist	SM	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=20 cpm, (H)=20 cpm
2							1.5-2.5	Light olive brown (5Y 5/6), well sorted, rounded, SILT, moist	ML	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=20 cpm, (H)=20 cpm
4	2	4-8	Soil				0-0.5	SAA		0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							0.5-1.5	Moderate yellowish brown (10YR 5/4), well sorted, rounded, fine SAND and silt, wet	SM	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							1.5-2.5	Black (N1), well sorted, SILT and fine sand, wet	ML	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302588

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-208
 PROJECT NAME: EPA-Martin Aaron LOCATION: Everett Street
 SURFACE ELEVATION: 7.53 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/22/2001 3:15:00 PM FINISH: 10/22/2001 4:15:00 PM
 NORTHING: 398837.736 feet EASTING: 318693.092 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2	0-0.5	Light gray (N7), well sorted, angular, medium GRAVEL, dry	GP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							0.5-2	Black (N1), mottled (many, fine, faint, black), poorly sorted, subangular, fine SAND and silt and fine gravel, dry, thinly bedded (NOTE: (3in) pale yellowish orange (10YR 8/6) not mottled, well sorted, subrounded, silt (ML), dry)	SM	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			2	0-1.5	Black (N1), mottled (many, fine, faint, black), poorly sorted, subangular, fine SAND and silt and fine gravel	SM	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6							1.5-3	Dark yellowish brown (10YR 4/2), mottled (many, fine, faint, dark yellowish brown), well sorted, rounded, fine SAND, wet	SP	0.5		PID(B)=0.5 ppm, (H)=0.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302589

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2

PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-209

PROJECT NAME: EPA-Martin Aaron LOCATION: Everett Street

SURFACE ELEVATION: 6.92 feet msl TOTAL DEPTH: 8.00 feet bgs

DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____

DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400

SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler

START: 10/22/2001 2:20:00 PM FINISH: 10/22/2001 3:10:00 PM

NORTHING: 398849.458 feet EASTING: 318817.595 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2	0-1	Grayish brown (5YR 3/2), moderately sorted, rounded, fine SAND and silt, little fine gravel, dry (NOTE: layer of medium gravel (4in))	SM	0.6		PID(B)=0.6 ppm, (H)=0.6 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1-2	Dark yellowish orange (10YR 6/6), mottled (many, fine, faint, dark yellowish orange), well sorted, fine SAND, dry	SP	0.6		PID(B)=0.6 ppm, (H)=0.6 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			3	0-2	Dark yellowish brown (10YR 4/2), well sorted, rounded, fine SAND, moist	SP	0.6		PID(B)=0.6 ppm, (H)=0.6 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6							2-3	Medium dark gray (N4), mottled (many, fine, faint, medium dark gray), poorly sorted, fine SAND and silt, some fine gravel, wet	SM	0.6		PID(B)=0.6 ppm, (H)=0.6 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level
bgs = below ground surface

302590

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-210
 PROJECT NAME: EPA-Martin Aaron LOCATION: Junkyard
 SURFACE ELEVATION: 7.89 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 12/14/2001 10:15:00 AM FINISH: 12/14/2001 11:00:00 AM
 NORTHING: 398754.007 feet EASTING: 318526.545 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2.3	0-1.1	Dark yellowish orange (10YR 6/6), poorly sorted, subangular, medium to coarse SAND and medium gravel, moist (NOTE: (0.9-1.1) 3in layer of 10YR 6/6, fine SAND (SP))	SW	2.5		PID(B)=2.5 ppm, (H)=2.5 ppm; RAD(B)=60 cpm, (H)=60 cpm
1							1.1-2.3	Black (N1), poorly sorted, subangular, coarse SAND and medium gravel, little silt, moist (NOTE: layered 2in 5Y 8/4 clay and 2in 5R 5/4 clay at 2.0- 2.1 bgs)	SW	2.5		PID(B)=2.5 ppm, (H)=2.5 ppm; RAD(B)=60 cpm, (H)=60 cpm
2												
3												
4	2	4-8	Soil			2.3	0-2.8	SAA (NOTE: 2in layer of 5R 5/4 (SC))		2.5		PID(B)=2.5 ppm, (H)=2.5 ppm; RAD(B)=60 cpm, (H)=60 cpm
5												
6												
7												
8	3	8-12	Soil			2	0-2	Pale olive (10Y 6/2), mottled (many, fine, faint, light olive gray), well sorted, subrounded, intermixed, fine SAND and clay, wet	SC	2.5		PID(B)=2.5 ppm, (H)=2.5 ppm; RAD(B)=60 cpm, (H)=60 cpm
9												
10												
11												
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302591

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-211
 PROJECT NAME: EPA-Martin Aaron LOCATION: Junkyard
 SURFACE ELEVATION: 7.63 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 12/14/2001 11:15:00 AM FINISH: 12/14/2001 12:15:00 PM
 NORTHING: 398758.181 feet EASTING: 318581.477 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6" 6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil		2.8	0-1	CONCRETE			0		PID(B)=1.5 ppm, (H)=1.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
1						1-2	Light olive gray (5Y 5/2), moderately sorted, subrounded, medium to coarse SAND, little silt, little medium gravel, dry	SW	1.5			PID(B)=1.5 ppm, (H)=1.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
2						2-2.8	Dark reddish brown (10R 3/4), moderately sorted, subangular, medium to coarse SAND, little fine to medium gravel, little silt, moist	SW	1.5			PID(B)=1.5 ppm, (H)=1.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
4	2	4-8	Soil		2.5	0-1	Black (N1), poorly sorted, subangular, fine to medium GRAVEL, some coarse sand, wet	GW	1.5			PID(B)=1.5 ppm, (H)=1.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
5						1-2.5	Blackish red (5R 2/2), poorly sorted, subangular, fine to medium GRAVEL, some coarse sand, moist	GW	1.5			PID(B)=1.5 ppm, (H)=1.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
6												
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302592

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-SO-212
PROJECT NAME: EPA-Martin Aaron **LOCATION:** Junkyard
SURFACE ELEVATION: 7.66 feet msl **TOTAL DEPTH:** 8.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:** _____
DRILLING METHOD: Direct Push **DRILLING EQUIPMENT:** Simco 2400
SAMPLING METHOD: Acetate Liners **CH2M GEOLOGIST:** Wojciech Winkler
START: 12/14/2001 12:15:00 PM **FINISH:** 12/14/2001 12:50:00 PM
NORTHING: 398768.486 feet **EASTING:** 318661.853 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		2.9	0-1.1	Dusky yellow (5Y 6/4), well sorted, subangular, fine SAND and silt, dry	SM	1		PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1						1.1-2.9	Blackish red (5R 2/2), poorly sorted, subangular, fine to medium GRAVEL, some coarse sand, little clay, moist	GW	1		PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2											
3											
4	2	4-8	Soil		2	0-0.7	SAA		1.5		PID(B)=1.5 ppm, (H)=1.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
5						0.7-2	Dark yellowish orange (10YR 6/6), poorly sorted, medium to coarse SAND, little fine gravel, wet (NOTE: layered 2 inch 5R 2/2 (GW) layer)	SW	1.5		PID(B)=1.5 ppm, (H)=1.5 ppm; RAD(B)=40 cpm, (H)=40 cpm
6											
7											
8											

NOTES:

msl = mean sea level

bgs = below ground surface

302593

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-213
 PROJECT NAME: EPA-Martin Aaron LOCATION: Junkyard
 SURFACE ELEVATION: 8.14 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: CME
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 12/14/2001 1:00:00 PM FINISH: 12/14/2001 1:40:00 PM
 NORTHING: 398768.22 feet EASTING: 318734.646 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		3.1	0-1	Dusky yellow (5Y 6/4), well sorted, subangular, fine SAND and silt, dry	SM	1		PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1						1-3.1	Blackish red (5R 2/2), poorly sorted, subangular, fine to medium GRAVEL, some coarse sand, little clay, moist	GW	1		PID(B)=1.0 ppm, (H)=1.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2											
3											
4	2	4-8	Soil		2.3	0-0.5	SAA	SW	3		PID(B)=3.0 ppm, (H)=3.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5						0.5-2.3	Dark yellowish orange (10YR 6/6), poorly sorted, medium to coarse SAND, little fine gravel, wet		3		PID(B)=3.0 ppm, (H)=3.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6											
7											
8	3	8-12	Soil		2	0-1.5	Black (N1), well sorted, subangular, medium GRAVEL, trace coarse sand	GP	3		PID(B)=3.0 ppm, (H)=3.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
9											
10						1.5-2	Dark gray (N3), well sorted, subrounded, CLAY and silt	CL	3		PID(B)=3.0 ppm, (H)=3.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
11											
12											

NOTES:

msl = mean sea level

bgs = below ground surface

302594

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-214
 PROJECT NAME: EPA-Martin Aaron LOCATION: Martin Aaron Proper - off Broadway
 SURFACE ELEVATION: 7.12 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 10/18/2001 8:30:00 AM FINISH: 10/18/2001 9:30:00 AM
 NORTHING: 398451.055 feet EASTING: 318415.563 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			1.5	0-0.5	Dark gray (N3), well sorted, subrounded, fine SAND and silt, dry	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0.5-1	BRICK (NOTE: brick chunks)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1-1.5	WOOD (NOTE: wood debris)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			3	0-0.5	Dark gray (N3), well sorted, fine SAND and silt, some fine gravel, moist	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
							0.5-1	Dusky yellow (5Y 6/4), mottled (common, fine, distinct, dusky yellow), well sorted, rounded, fine SAND, some fine gravel, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-2	SAA (NOTE: no gravel)		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							2-3	Light olive gray (5Y 5/2), well sorted, rounded, fine SAND, wet	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302595

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
PROJECT NUMBER: 164453 **BORING NUMBER:** MA-SO-301
PROJECT NAME: EPA-Martin Aaron **LOCATION:** South Jersey Port
SURFACE ELEVATION: 5.91 feet msl **TOTAL DEPTH:** 8.00 feet bgs
DRILLING CONTRACTOR: Unit-Tech **FOREMAN:** _____
DRILLING METHOD: Direct Push **DRILLING EQUIPMENT:** Simco 2400
SAMPLING METHOD: Acetate Liners **CH2M GEOLOGIST:** Rob Rech
START: 12/13/2001 7:20:00 AM **FINISH:** 12/13/2001 8:30:00 AM
NORTHING: 398576.8904 feet **EASTING:** 317901.2175 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil			2.3	0-1	Pinkish gray (5YR 8/1), moderately sorted, subangular, medium to coarse SAND and medium gravel, dry, loose (NOTE: some surface debris)	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							1-2	Brownish black (5YR 2/1), moderately sorted, fine SAND and silt, some fine gravel, dry, loose (NOTE: some brick debris)	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2							2-3	Light greenish gray (5GY 8/1), poorly sorted, silty CLAY, slight plasticity, dry, firm (NOTE: inorganic)	CL	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
3							3-4	Black (N1), poorly sorted, medium SAND and medium gravel, dry, loose	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
4	2	4-8	Soil			2.6	0-1	SAA		0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-3	Brownish black (5YR 2/1), poorly sorted, coarse SAND and silt, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6												
7							3-4	Black (N1), poorly sorted, subrounded, fine SAND and silt, some medium to coarse gravel, wet, medium dense	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
8												

NOTES:

msl = mean sea level
 bgs = below ground surface

302596

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-302
 PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
 SURFACE ELEVATION: 7.25 feet msl TOTAL DEPTH: 8.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 12/12/2001 10:10:00 AM FINISH: 12/12/2001 11:00:00 AM
 NORTHING: 398753.7512 feet EASTING: 318042.8511 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2.2	0-0.9	Brownish gray (5YR 4/1), moderately sorted, subangular, medium to coarse SAND, little silt, trace medium gravel, dry	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							0.9-2.2	Yellowish gray (5Y 8/1), moderately sorted, subangular, medium to coarse SAND, little silt, trace fine gravel, dry	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			2.7	0-1.4	Olive gray (5Y 3/2), well sorted, fine SAND and silt, little clay, dry (NOTE: refusal at 6ft bgs, moved hole, hit refusal at 6ft bgs again, moed again, final hole hit refusal at 8ft bgs--wet soil at the tip (6.5ft-8ft))	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6												
7												
8												

NOTES:

msl = mean sea level

bgs = below ground surface

302597

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-303
 PROJECT NAME: EPA-Martin Aaron LOCATION: South Jersey Port
 SURFACE ELEVATION: 6.21 feet msl TOTAL DEPTH: 7.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Rob Rech
 START: 12/13/2001 8:40:00 AM FINISH: 12/13/2001 9:15:00 AM
 NORTHING: 398508.0124 feet EASTING: 317981.5327 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION [COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
0	1	0-4	Soil		2.8	0-1.5	0-1.5	Olive back (5Y 2/1), moderately sorted, angular, fine GRAVEL and fine sand and silt, dry, loose	GM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1						1.5-3	1.5-3	Grayish brown (5YR 3/2), poorly sorted, subangular, fine SAND and silt, trace fine gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil		3.1	0-1	0-1	Grayish brown (5YR 3/2), moderately sorted, subangular, fine SAND and silt, trace fine gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5						1-2	1-2	Very pale orange (10YR 8/2), moderately sorted, angular, fine GRAVEL and fine sand and silt, dry, loose	GM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6						2-3.1	2-3.1	Dusky yellow green (5GY 5/2), poorly sorted, silty CLAY, slight plasticity, moist, firm	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												

NOTES:

msl = mean sea level

bgs = below ground surface

302598

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-401
 PROJECT NAME: EPA-Martin Aaron LOCATION: Ponte Property
 SURFACE ELEVATION: 7.88 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Rob Rech
 START: 12/17/2001 9:45:00 AM FINISH: 12/17/2001 10:15:00 AM
 NORTHING: 398255.2585 feet EASTING: 318625.825 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6'-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		2.5	0-1	Moderate brown (5YR 4/4), moderately sorted, subangular, fine SAND, trace medium gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1						1-3	Dark yellowish brown (10YR 4/2), well sorted, subangular, fine SAND, little fine gravel, dry, medium dense	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2											
3											
4	2	4-8	Soil		3.0	0-1.5	Dark yellowish orange (10YR 6/6), well sorted, subangular, fine SAND, trace silt, trace fine gravel, dry, medium dense	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5						1-1.7	Olive back (5Y 2/1), well sorted, subangular, fine SAND and clay, low plasticity, moist, firm (NOTE: mostly fill with a lot of brick debris)	SC	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6											
7											
8	3	8-12	Soil		3.7	0-1	Olive back (5Y 2/1), mottled (common, medium, distinct, moderate brown), well sorted, subangular, fine SAND and clay, low plasticity, moist, firm	SC	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
9						1-4	Grayish orange (10YR 7/4), well sorted, subangular, medium SAND, trace silt, trace fine gravel, wet, medium dense	SM			PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
10											
11											
12											

NOTES:

msl = mean sea level

bgs = below ground surface

302599

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-402
 PROJECT NAME: EPA-Martin Aaron LOCATION: Ponte Property
 SURFACE ELEVATION: 7.76 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Split Spoon CH2M GEOLOGIST: Wojciech Winkler
 START: 12/17/2001 10:20:00 AM FINISH: 12/17/2001 11:15:00 AM
 NORTHING: 398256.079 feet EASTING: 318638.8445 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
							[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil		2.4	0-1	Yellowish gray (5Y 8/1), well sorted, subangular, medium to coarse GRAVEL, dry	GP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1						1-2.4	Brownish black (5YR 2/1), poorly sorted, subrounded, fine to medium GRAVEL, some medium to coarse sand, dry	GW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2											
3											
4	2	4-8	Soil		3.3	0-3.3	Dark yellowish orange (10YR 6/6), well sorted, subrounded, fine to medium SAND, little fine gravel (NOTE: 4in at 5.5-6.3ft layer of 5YR 3/4, poorly sorted, subangular, fine to medium gravel (GW) dry)	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5											
6											
7											
8	3	8-12	Soil		3.4	0-0.9	Brownish black (5YR 2/1), well sorted, subrounded, clayey SILT, slight plasticity	ML	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
9						0.9-3.4	Dark yellowish orange (10YR 6/6), well sorted, subrounded, fine to medium SAND, moist	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
10											
11											
12											

NOTES:

msl = mean sea level

bgs = below ground surface

302600

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-403
 PROJECT NAME: EPA-Martin Aaron LOCATION: Ponte Property
 SURFACE ELEVATION: 7.72 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Rob Rech
 START: 12/17/2001 11:23:00 AM FINISH: 12/17/2001 12:00:00 PM
 NORTHING: 398255.7559 feet EASTING: 318652.0364 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6' 6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY, WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2.4	0-0.5	Dark yellowish brown (10YR 4/2), moderately sorted, subangular, medium SAND, trace silt, trace fine gravel, dry, loose	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1							0.5-3	Grayish brown (5YR 3/2), moderately sorted, subangular, medium SAND, little silt, some fine to medium gravel, dry, loose	SW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
2												
3												
4	2	4-8	Soil			2.8	0-1	Grayish brown (5YR 3/2), moderately sorted, subangular, medium SAND, trace silt, trace fine to medium gravel, dry, medium dense	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5							1-2	Dusky yellow (5Y 6/4), well sorted, subangular, fine SAND, trace silt, moist, medium dense	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
6							2-3	Dusky yellowish brown (10YR 2/2), well sorted, subangular, fine SAND, some clay, slight plasticity, dry, stiff	SC	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
7												
8	3	8-12	Soil			3.4	0-3	Yellowish gray (5Y 7/2), mottled (few, fine, faint, light brown), well sorted, subrounded, fine SAND, trace silt, trace fine to coarse gravel, wet	SM	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
9												
10												
11												
12												

NOTES:

msl = mean sea level

bgs = below ground surface

302601

**CH2MHILL****SOIL BORING LOG**

SHEET 1 OF 1

CLIENT: EPA Region 2
 PROJECT NUMBER: 164453 BORING NUMBER: MA-SO-404
 PROJECT NAME: EPA-Martin Aaron LOCATION: Ponte Property
 SURFACE ELEVATION: 7.21 feet msl TOTAL DEPTH: 12.00 feet bgs
 DRILLING CONTRACTOR: Unit-Tech FOREMAN: _____
 DRILLING METHOD: Direct Push DRILLING EQUIPMENT: Simco 2400
 SAMPLING METHOD: Acetate Liners CH2M GEOLOGIST: Wojciech Winkler
 START: 12/17/2001 12:15:00 PM FINISH: 12/17/2001 12:45:00 PM
 NORTHING: 398254.5975 feet EASTING: 318811.9383 feet

DEPTH BELOW GRADE (FT)	SAMPLE NUMBER	SAMPLE INTERVAL (FT)	SAMPLE TYPE	BLOW COUNTS 6"-6"-6"-6"	N VALUE	SAMPLE RECOVERY (FT)	SAMPLE DESCRIPTION INTERVAL (FT)	SOIL DESCRIPTION	USCS GROUP SYMBOL	PID/FID READING (PPM)	OTHER TESTING	COMMENTS
								[COLOR, MOTTLING, SOIL DESCRIPTION, PREDOMINANT GRAIN SIZE, SUBORDINATE GRAIN SIZE WITH DESCRIPTORS, SORTING, GRAIN SHAPE, PLASTICITY, MINERALOGY), WATER STATE, DENSITY/COHESIVENESS, LAYERING]				
0	1	0-4	Soil			2.4	0-4	Dark reddish brown (10R 3/4), poorly sorted, subangular, fine to medium GRAVEL, some coarse sand	GW	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
1												
2												
3												
4	2	4-8	Soil			3	0-4	Dark yellowish orange (10YR 6/6), well sorted, subrounded, fine SAND, trace silt (NOTE: layer at 4ft5in 10YR 6/6, wet, poorly sorted, subangular, fine gravel (GW), dry)	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
5												
6												
7												
8	3	8-12	Soil				0-4	Dark yellowish orange (10YR 6/6), well sorted, subrounded, fine to medium SAND, trace silt, moist	SP	0		PID(B)=0.0 ppm, (H)=0.0 ppm; RAD(B)=40 cpm, (H)=40 cpm
9												
10												
11												
12												

NOTES:

msl = mean sea level
 bgs = below ground surface

302602

Appendix G
Analytical Results

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-02	MA-SB-04	MA-SB-06	MA-SB-08	MA-SB-09
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB02-SS	MA-SB04-SS	MA-SB06-SS	MA-SB08-SS	MA-SB09-SS
Sample Date				10/18/2001	10/16/2001	10/15/2001	10/16/2001	10/15/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	0.5 - 1 ft
CLP Sample ID				B0DD7	B0DA6	B0D96	B0DA9	B0D91
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	21 UJ	63 J	52 J	200 J	75 J
Benzene	1000	13000	30	10 U	1 J	11 U	100 J (C)	2 J
Bromoform	1000		800	10 U	2 J	11 U	12 U	11 U
Bromomethane	1000	1000000	200	10 U	10 U	11 U	12 U	11 U
Carbon disulfide			32000	2 J	2 J	11 U	19 J	11 U
Carbon tetrachloride	1000		70	10 U	10 U	11 U	12 U	11 U
Chlorobenzene	1000		1000	10 U	5 J	11 U	12 U	11 U
Chloroethane				10 U	10 UJ	11 U	12 UJ	11 U
Chloroform	1000	28000	600	10 U	10 U	11	12 U	11 U
Chloromethane	10000			10 U	10 U	11 U	12 U	11 U
Cyclohexane				10 U	10 U	11 U	66 J	11 U
DBCP (1,2-dibromo-3-chloropropane)				10 U	10 UJ	11 U	12 UJ	11 U
Dibromochloromethane	1000		400	10 U	10 U	11 U	12 U	11 U
Dibromoethane-1,2				10 U	10 U	11 U	12 U	11 U
Dichlorobenzene-1,2	50000		17000	10 U	1 J	11 U	2 J	11 U
Dichlorobenzene-1,3	100000			10 U	10 U	11 U	12 U	11 U
Dichlorobenzene-1,4	100000		2000	10 U	10 U	11 U	12 U	11 U
Dichlorobromomethane	1000		600	10 U	10 U	11 U	12 U	11 U
Dichlorodifluoromethane				10 U	10 U	11 U	12 U	11 U
Dichloroethane-1,1	10000		23000	25	10 U	11 U	18 J	11 U
Dichloroethane-1,2	1000		20	10 U	10 U	11 U	12 U	11 U
Dichloroethene-1,2 trans	50000		700	17	10 U	11 U	3 J	11 U
Dichloroethylene-1,1	10000		60	2 J	10 U	11 U	12 U	11 U
Dichloroethylene-1,2 cis	1000	1000000	400	180	2 J	11 U	19 J	11 U
Dichloropropane-1,2			30	10 U	10 U	11 U	12 U	11 U
Dichloropropene-1,3 cis			4	10 U	10 U	11 U	12 U	11 U
Dichloropropene-1,3 trans			4	10 U	10 U	11 U	12 U	11 U
Ethylbenzene	100000	1000000	13000	10 U	10 U	11 U	49 J	11 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				10 U	10 U	11 U	12 U	11 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-02	MA-SB-04	MA-SB-06	MA-SB-08	MA-SB-09
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB02-SS	MA-SB04-SS	MA-SB06-SS	MA-SB08-SS	MA-SB09-SS
Sample Date				10/18/2001	10/16/2001	10/15/2001	10/16/2001	10/15/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	0.5 - 1 ft
CLP Sample ID				B0DD7	B0DA6	B0D96	B0DA9	B0D91
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				10 U	10 UJ	11 U	12 UJ	11 U
Isopropylbenzene				10 U	10 U	11 U	7 J	11 U
Methyl acetate				10 U	10 U	11 U	12 U	11 U
Methyl cyclohexane				10 U	1 J	11 U	86 J	11 U
Methyl ethyl ketone (2-butanone)	50000			10 U	21	9 J	64 J	20
Methyl isobutyl ketone (4-methyl-2-penta	50000			10 U	1 J	11 U	120 J	7 J
Methyl tertiary butyl ether (MTBE)				10 U	10 U	11 U	12 U	11 U
Methylene chloride	1000		20	10 U	10 U	16 U	12 UJ	11 U
Styrene	100000		4000	10 U	10 U	11 U	12 U	11 U
Tetrachloroethane-1,1,2,2	1000		3	10 U	10 U	11 U	12 U	11 U
Tetrachloroethylene	1000	6000	60	21	10 U	6 J	13 J	11 U
Toluene	500000	1000000	12000	10 U	4 J	4 J	52 J	15
Trichlorobenzene-1,2,4	100000		5000	10 U	10 U	11 U	12 U	11 U
Trichloroethane-1,1,1	50000		2000	11	10 U	11 U	12 U	11 U
Trichloroethane-1,1,2	1000		20	10 U	10 U	11 U	12 U	11 U
Trichloroethylene	1000	54000	60	5 J	10 U	11	7 J	11 U
Trichlorofluoromethane				10 U	10 U	11 U	12 U	11 U
Vinyl chloride	10000	7000	10	35 (C)	10 U	11 U	9 J	11 U
Xylenes, total	67000		210000	10 U	1 J	11 U	150 J	5 J

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-106	MA-SB-108	MA-SB-108	MA-SB-11	MA-SB-112
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB106-SS	MA-SB108-SS	MA-SB108-SS-D	MA-SB11-SS	MA-SB112-SS
Sample Date				10/22/2001	10/22/2001	10/22/2001	10/15/2001	10/17/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				B0DG7RE	B0DF9	B0DG1RE	B0D99	B0DC4
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	13 UJ	14 U	13 U	150 J	72 J
Benzene	1000	13000	30	4 J	14 U	13 U	2 J	2 J
Bromoform	1000		800	13 R	14 U	13 U	2 J	13 U
Bromomethane	1000	1000000	200	13 UJ	14 U	13 U	18 U	13 U
Carbon disulfide			32000	13 UJ	14 U	13 U	130	4 J
Carbon tetrachloride	1000		70	13 UJ	14 U	13 U	18 U	13 U
Chlorobenzene	1000		1000	13 R	14 U	13 UJ	18 U	13 U
Chloroethane				13 UJ	14 U	13 U	18 U	13 U
Chloroform	1000	28000	600	13 UJ	14 U	13 U	18 U	13 U
Chloromethane	10000			13 UJ	14 U	13 U	18 U	13 U
Cyclohexane				7 J	14 U	13 U	18 U	13 U
DBCP (1,2-dibromo-3-chloropropane)				13 R	14 U	13 UJ	18 UJ	13 U
Dibromochloromethane	1000		400	13 UJ	14 U	13 U	18 U	13 U
Dibromoethane-1,2				13 R	14 U	13 UJ	18 U	13 U
Dichlorobenzene-1,2	50000		17000	13 R	14 U	13 UJ	18 U	13 U
Dichlorobenzene-1,3	100000			13 R	14 U	13 UJ	18 U	13 U
Dichlorobenzene-1,4	100000		2000	13 R	14 U	13 UJ	18 U	13 U
Dichlorobromomethane	1000		600	13 UJ	14 U	13 U	18 U	13 U
Dichlorodifluoromethane				13 UJ	14 U	13 U	18 U	13 U
Dichloroethane-1,1	10000		23000	13 UJ	14 U	13 U	18 U	13 U
Dichloroethane-1,2	1000		20	13 UJ	14 U	13 U	18 U	13 UJ
Dichloroethene-1,2 trans	50000		700	13 UJ	14 U	13 U	18 U	13 U
Dichloroethylene-1,1	10000		60	13 UJ	14 U	13 U	18 U	13 U
Dichloroethylene-1,2 cis	1000	1000000	400	13 UJ	14 U	13 U	8 J	13 U
Dichloropropane-1,2			30	13 UJ	14 U	13 U	18 U	13 U
Dichloropropene-1,3 cis			4	13 UJ	14 U	13 U	18 U	13 U
Dichloropropene-1,3 trans			4	13 UJ	14 U	13 U	18 U	13 U
Ethylbenzene	100000	1000000	13000	13 R	14 U	13 UJ	870	13 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				13 UJ	14 U	13 U	18 U	13 U

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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-106	MA-SB-108	MA-SB-108	MA-SB-11	MA-SB-112
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB106-SS	MA-SB108-SS	MA-SB108-SS-D	MA-SB11-SS	MA-SB112-SS
Sample Date				10/22/2001	10/22/2001	10/22/2001	10/15/2001	10/17/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				B0DG7RE	B0DF9	B0DG1RE	B0D99	B0DC4
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				13 R	14 U	13 UJ	18 U	13 U
Isopropylbenzene				13 R	14 U	13 UJ	3 J	13 U
Methyl acetate				13 UJ	14 U	13 U	18 U	13 U
Methyl cyclohexane				4 J	14 U	2 J	3 J	13 U
Methyl ethyl ketone (2-butanone)	50000			13 UJ	14 U	13 U	85	17
Methyl isobutyl ketone (4-methyl-2-penta	50000			13 R	14 U	13 UJ	18 J	13 U
Methyl tertiary butyl ether (MTBE)				13 UJ	14 U	13 U	18 U	13 UJ
Methylene chloride	1000		20	13 UJ	14 U	13 U	18 U	13 U
Styrene	100000		4000	13 R	14 U	13 UJ	7 J	13 U
Tetrachloroethane-1,1,2,2	1000		3	13 R	14 U	13 UJ	18 U	13 U
Tetrachloroethylene	1000	6000	60	13 R	14 U	13 UJ	18 U	2 J
Toluene	500000	1000000	12000	23 J	14 U	13 UJ	340	13 U
Trichlorobenzene-1,2,4	100000		5000	13 R	14 U	13 UJ	18 U	13 U
Trichloroethane-1,1,1	50000		2000	13 UJ	14 U	13 U	18 U	13 U
Trichloroethane-1,1,2	1000		20	13 UJ	14 U	13 U	18 U	13 U
Trichloroethylene	1000	54000	60	13 UJ	14 U	13 U	8 J	13 U
Trichlorofluoromethane				13 UJ	14 U	13 U	18 U	13 U
Vinyl chloride	10000	7000	10	13 UJ	14 U	13 U	18 U	13 U
Xylenes, total	67000		210000	2 J	14 U	13 UJ	69	13 U

J - Reported value estimated in quantity
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U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
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05/20/2004
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Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB118-SS	MA-SB120-SS	MA-SB122-SS	MA-SB124-SS	MA-SB124-SS-D
Sample Date			F20	10/18/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001
Sample Interval				0.5 - 1 ft	1 - 2.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DD8	B0DB0	B0DB3	B0DB7	B0DB4
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	250 J	23 UJ	32 J	29 J	23 J
Benzene	1000	13000	30	13 U	4 J	12 U	2 J	2 J
Bromoform	1000		800	13 U	10 UJ	12 U	10 U	11 U
Bromomethane	1000	1000000	200	13 U	10 U	12 U	10 U	11 U
Carbon disulfide			32000	13 U	2 J	12 U	10 U	2 J
Carbon tetrachloride	1000		70	13 U	10 U	12 U	10 U	11 U
Chlorobenzene	1000		1000	13 U	10 U	12 U	10 U	11 U
Chloroethane				13 U	10 UJ	12 U	10 U	11 U
Chloroform	1000	28000	600	13 U	10 U	12 U	10 U	11 U
Chloromethane	10000			13 U	10 U	12 U	10 U	11 U
Cyclohexane				13 U	1 J	12 U	10 U	11 U
DBCP (1,2-dibromo-3-chloropropane)				13 U	10 UJ	12 U	10 U	11 U
Dibromochloromethane	1000		400	13 U	10 U	12 U	10 U	11 U
Dibromoethane-1,2				13 U	10 U	12 U	10 U	11 U
Dichlorobenzene-1,2	50000		17000	13 U	10 U	12 U	10 U	11 U
Dichlorobenzene-1,3	100000			13 U	10 U	12 U	10 U	11 U
Dichlorobenzene-1,4	100000		2000	13 U	10 U	12 U	10 U	11 U
Dichlorobromomethane	1000		600	13 U	10 U	12 U	10 U	11 U
Dichlorodifluoromethane				1 U	10 U	12 UJ	10 U	11 U
Dichloroethane-1,1	10000		23000	13 U	10 U	12 U	10 U	11 U
Dichloroethane-1,2	1000		20	13 U	10 U	12 U	10 UJ	11 UJ
Dichloroethene-1,2 trans	50000		700	13 U	10 U	12 U	10 U	11 U
Dichloroethylene-1,1	10000		60	13 U	10 U	12 U	10 U	11 U
Dichloroethylene-1,2 cis	1000	1000000	400	13 U	10 U	6 J	10 U	11 U
Dichloropropane-1,2			30	13 U	10 U	12 U	10 U	11 U
Dichloropropene-1,3 cis			4	13 U	10 U	12 U	10 U	11 U
Dichloropropene-1,3 trans			4	13 U	10 U	12 U	10 U	11 U
Ethylbenzene	100000	1000000	13000	13 U	10 U	12 U	10 U	11 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				13 U	10 U	12 U	10 U	11 U

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

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Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB118-SS	MA-SB120-SS	MA-SB122-SS	MA-SB124-SS	MA-SB124-SS-D
Sample Date			F20	10/18/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001
Sample Interval				0.5 - 1 ft	1 - 2.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DD8	B0DB0	B0DB3	B0DB7	B0DB4
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				13 U	10 UJ	12 U	10 U	11 U
Isopropylbenzene				13 U	10 U	12 U	10 U	11 U
Methyl acetate				13 U	10 U	12 U	10 U	11 U
Methyl cyclohexane				13 U	1 J	12 U	10 U	11 U
Methyl ethyl ketone (2-butanone)	50000			27	10 U	12 U	10 U	11 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			13 U	10 UJ	12 U	10 U	11 U
Methyl tertiary butyl ether (MTBE)				13 U	10 U	12 U	10 UJ	11 UJ
Methylene chloride	1000		20	14 U	10 U	12 UJ	10 U	11 U
Styrene	100000		4000	13 U	10 U	12 U	10 U	11 U
Tetrachloroethane-1,1,2,2	1000		3	13 U	10 U	12 U	10 U	11 U
Tetrachloroethylene	1000	6000	60	28	10 U	8 J	10 U	1 J
Toluene	500000	1000000	12000	20	3 J	12 UJ	10	11 U
Trichlorobenzene-1,2,4	100000		5000	13 U	10 U	12 U	10 U	11 U
Trichloroethane-1,1,1	50000		2000	13 U	10 U	12 U	10 U	11 U
Trichloroethane-1,1,2	1000		20	13 U	10 U	12 U	10 U	11 U
Trichloroethylene	1000	54000	60	2 J	10 U	4 J	10 U	11 U
Trichlorofluoromethane				13 U	10 U	12 U	10 U	11 U
Vinyl chloride	10000	7000	10	13 U	10 U	12 U	10 U	11 U
Xylenes, total	67000		210000	2 J	10 U	12 U	10 U	11 U

J - Reported value estimated in quantity
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IGWSCC - Impact to Groundwater Soil Cleanup Criteria

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Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB13-SS	MA-SB130-SS	MA-SB131-SS	MA-SB14-SS	MA-SB29-SS-1.0
Sample Date				10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DF5	B0DC0	B0DF3	B0D93	B0DX6
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	14 UJ	310 J	22 UJ	50 J	38 UJ
Benzene	1000	13000	30	12 U	10 J	10 U	11 U	13 U
Bromoform	1000		800	12 UJ	15 UJ	10 UJ	11 U	13 U
Bromomethane	1000	1000000	200	12 U	3 J	10 U	11 U	13 U
Carbon disulfide			32000	12 U	4 J	10 U	11 U	13 U
Carbon tetrachloride	1000		70	12 U	15 U	10 U	11 U	13 U
Chlorobenzene	1000		1000	12 U	15 U	10 U	11 U	13 U
Chloroethane				12 U	15 UJ	10 U	11 U	13 U
Chloroform	1000	28000	600	12 U	6 J	10 U	11 U	13 U
Chloromethane	10000			12 U	15 U	10 U	11 U	13 U
Cyclohexane				12 U	3 J	10 U	11 U	13 U
DBCP (1,2-dibromo-3-chloropropane)				12 UJ	15 UJ	10 UJ	11 U	13 U
Dibromochloromethane	1000		400	12 U	15 U	10 U	11 U	13 U
Dibromoethane-1,2				12 U	15 U	10 U	11 U	13 U
Dichlorobenzene-1,2	50000		17000	12 U	15 U	10 U	11 U	13 U
Dichlorobenzene-1,3	100000			12 U	15 U	10 U	11 U	13 U
Dichlorobenzene-1,4	100000		2000	12 U	15 U	10 U	11 U	13 U
Dichlorobromomethane	1000		600	12 U	15 U	10 U	11 U	13 U
Dichlorodifluoromethane				12 U	15 U	10 U	11 U	13 UJ
Dichloroethane-1,1	10000		23000	12 U	15 U	10 U	11 U	13 U
Dichloroethane-1,2	1000		20	12 U	15 U	10 U	11 U	13 U
Dichloroethene-1,2 trans	50000		700	12 U	15 U	10 U	11 U	13 U
Dichloroethylene-1,1	10000		60	12 U	15 U	10 U	11 U	13 U
Dichloroethylene-1,2 cis	1000	1000000	400	12 U	15 U	10 U	11 U	13 U
Dichloropropane-1,2			30	12 U	15 U	10 U	11 U	13 U
Dichloropropene-1,3 cis			4	12 U	15 U	10 U	11 U	13 U
Dichloropropene-1,3 trans			4	12 U	15 U	10 U	11 U	13 U
Ethylbenzene	100000	1000000	13000	12 U	23	10 U	11 U	13 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoro)				12 U	15 U	10 U	11 U	13 U

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(A, B, C) - Exceeds criteria
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05/20/2004
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Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB13-SS	MA-SB130-SS	MA-SB131-SS	MA-SB14-SS	MA-SB29-SS-1.0
Sample Date				10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DF5	B0DC0	B0DF3	B0D93	B0DX6
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				12 UJ	4 J	10 UJ	11 U	13 U
Isopropylbenzene				12 U	3 J	10 U	11 U	13 U
Methyl acetate				12 U	15 U	10 U	11 U	13 U
Methyl cyclohexane				12 U	3 J	10 U	11 U	13 U
Methyl ethyl ketone (2-butanone)	50000			12 UJ	34	10 UJ	8 J	13 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			12 UJ	5 J	10 UJ	11 U	13 U
Methyl tertiary butyl ether (MTBE)				12 U	15 U	10 U	11 U	13 U
Methylene chloride	1000		20	12 U	71 (C)	10 U	11 U	15 U
Styrene	100000		4000	12 U	15 U	10 U	11 U	13 U
Tetrachloroethane-1,1,2,2	1000		3	12 U	15 U	10 U	11 U	13 U
Tetrachloroethylene	1000	6000	60	2 J	62 (C)	10 U	11 U	13 U
Toluene	500000	1000000	12000	12 U	22	10 U	11 U	13 U
Trichlorobenzene-1,2,4	100000		5000	12 U	15 U	10 U	11 U	13 U
Trichloroethane-1,1,1	50000		2000	12 U	43	10 U	11 U	13 U
Trichloroethane-1,1,2	1000		20	12 U	15 U	10 U	11 U	13 U
Trichloroethylene	1000	54000	60	12 U	17	2 J	11 U	13 U
Trichlorofluoromethane				12 U	3 J	10 U	11 U	13 U
Vinyl chloride	10000	7000	10	12 U	15 U	10 U	11 U	13 U
Xylenes, total	67000		210000	12 U	130	10 U	11 U	13 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
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Criteria
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Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-56
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB31-SS	MA-SB42-SS	MA-SB47-SS	MA-SB56-SS	MA-SB56-SS-D
Sample Date			F20	10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DC5	B0DD0	B0DD1	B0DA3	B0DA0
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	14000 UJ	10 UJ	1600 U	30 UJ	17 UJ
Benzene	1000	13000	30	14000 U	10 U	1600 U	4 J	6 J
Bromoform	1000		800	14000 U	10 U	1600 U	16 UJ	13 U
Bromomethane	1000	1000000	200	14000 U	10 U	1600 U	16 UJ	13 U
Carbon disulfide			32000	14000 U	10 U	1600 U	11 J	4 J
Carbon tetrachloride	1000		70	14000 U	10 U	1600 U	16 UJ	13 U
Chlorobenzene	1000		1000	14000 U	10 U	1600 U	16 UJ	13 U
Chloroethane				14000 UJ	10 U	1600 U	16 UJ	13 U
Chloroform	1000	28000	600	14000 U	10 U	1600 U	16 UJ	13 U
Chloromethane	10000			14000 U	10 U	1600 U	16 UJ	13 U
Cyclohexane				14000 U	10 U	1600 U	3 J	13 U
DBCP (1,2-dibromo-3-chloropropane)				14000 U	10 UJ	1600 U	15 UJ	13 U
Dibromochloromethane	1000		400	14000 U	10 U	1600 U	16 UJ	13 U
Dibromoethane-1,2				14000 U	10 U	1600 U	16 UJ	13 U
Dichlorobenzene-1,2	50000		17000	3300 J	10 U	1600 U	16 UJ	13 U
Dichlorobenzene-1,3	100000			14000 U	10 U	1600 U	16 UJ	13 U
Dichlorobenzene-1,4	100000		2000	14000 U	10 U	1600 U	16 UJ	13 U
Dichlorobromomethane	1000		600	14000 U	10 U	1600 U	16 UJ	13 U
Dichlorodifluoromethane				14000 U	10 U	1600 U	16 UJ	13 U
Dichloroethane-1,1	10000		23000	11000 U (A)	10 U	1600 U	16 UJ	13 U
Dichloroethane-1,2	1000		20	14000 U	10 U	1600 U	16 UJ	13 U
Dichloroethene-1,2 trans	50000		700	14000 U	10 U	1600 U	16 UJ	13 U
Dichloroethylene-1,1	10000		60	14000 U	10 U	1600 U	16 UJ	13 U
Dichloroethylene-1,2 cis	1000	1000000	400	24000 (AC)	10 U	530 J (C)	16 UJ	13 U
Dichloropropane-1,2			30	14000 U	10 U	1600 U	16 UJ	13 U
Dichloropropene-1,3 cis			4	14000 U	10 U	1600 U	16 UJ	13 U
Dichloropropene-1,3 trans			4	14000 U	10 U	1600 U	16 UJ	13 U
Ethylbenzene	100000	1000000	13000	6700 J	10 U	1600 U	17 J	13 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				14000 U	10 U	1600 U	16 UJ	13 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-56
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB31-SS	MA-SB42-SS	MA-SB47-SS	MA-SB56-SS	MA-SB56-SS-D
Sample Date				10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DC5	B0DD0	B0DD1	B0DA3	B0DA0
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				14000 U	10 UJ	1600 U	16 UJ	13 U
Isopropylbenzene				14000 U	10 U	1600 U	16 UJ	13 U
Methyl acetate				14000 U	10 U	1600 U	16 UJ	13 U
Methyl cyclohexane				5000 J	10 U	1600 U	5 J	13 U
Methyl ethyl ketone (2-butanone)	50000			14000 U	10 U	1600 U	16 UJ	13 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			14000 U	10 UJ	1600 U	16 UJ	13 U
Methyl tertiary butyl ether (MTBE)				14000 UJ	10 U	1600 UJ	16 UJ	13 U
Methylene chloride	1000		20	14000 U	10 U	1600 U	16 UJ	13 U
Styrene	100000		4000	14000 U	10 U	1600 U	16 UJ	13 U
Tetrachloroethane-1,1,2,2	1000		3	14000 U	10 U	1600 U	16 UJ	13 U
Tetrachloroethylene	1000	6000	60	26000 (ABC)	6 J	11000 (ABC)	64 J (C)	8 J
Toluene	500000	1000000	12000	160000 (C)	10 U	1600 U	13 J	2 J
Trichlorobenzene-1,2,4	100000		5000	14000 U	10 U	1600 UJ	16 UJ	13 U
Trichloroethane-1,1,1	50000		2000	14000 U	10 U	1600 U	16 UJ	13 U
Trichloroethane-1,1,2	1000		20	14000 U	10 U	1600 U	16 UJ	13 U
Trichloroethylene	1000	54000	60	60000 (ABC)	10 U	2300 (AC)	60 (C)	48
Trichlorofluoromethane				14000 U	10 U	1600 U	16 UJ	13 U
Vinyl chloride	10000	7000	10	14000 U	10 U	1600 U	16 UJ	13 U
Xylenes, total	67000		210000	40000	10 U	1600 U	80 J	13 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-60	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB60-SS	MA-SB62-SS-1	MA-SB66-SS-0.5	MA-SB67-SS-1.0	MA-SB68-SS-1.0
Sample Date				10/16/2001	12/12/2001	12/13/2001	12/12/2001	12/13/2001
Sample Interval				1.5 - 2 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DA4	B0DX1	B0DZ5	B0DX4	B0DY7
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	1300 UJ	24 UJ	11 U	40 UJ	4 J
Benzene	1000	13000	30	260 J (C)	11 U	11 U	11 U	12 U
Bromoform	1000		800	1300 U	11 U	11 U	11 U	12 U
Bromomethane	1000	1000000	200	120 J	11 U	11 U	11 U	12 U
Carbon disulfide			32000	1300 U	11 U	11 U	11 U	12 U
Carbon tetrachloride	1000		70	1300 U	11 U	11 U	11 U	12 U
Chlorobenzene	1000		1000	3200 (AC)	11 U	11 U	11 U	12 U
Chloroethane				2700 J	11 U	11 U	11 U	12 U
Chloroform	1000	28000	600	1300 U	11 U	11 U	11 U	12 U
Chloromethane	10000			1300 U	11 U	11 U	11 U	12 U
Cyclohexane				1300 U	11 U	11 U	11 U	12 U
DBCP (1,2-dibromo-3-chloropropane)				1300 U	11 U	11 U	11 U	12 U
Dibromochloromethane	1000		400	1300 U	11 U	11 U	11 U	12 U
Dibromoethane-1,2				1300 U	11 U	11 U	11 U	12 U
Dichlorobenzene-1,2	50000		17000	5500	11 U	11 U	11 U	12 U
Dichlorobenzene-1,3	100000			1300 U	11 U	11 U	11 U	12 U
Dichlorobenzene-1,4	100000		2000	230 J	11 U	11 U	11 U	12 U
Dichlorobromomethane	1000		600	1300 U	11 U	11 U	11 U	12 U
Dichlorodifluoromethane				1300 U	11 UJ	11 U	11 UJ	12 UJ
Dichloroethane-1,1	10000		23000	4700	11 U	11 U	11 U	12 U
Dichloroethane-1,2	1000		20	1300 U	11 U	11 U	11 U	12 U
Dichloroethene-1,2 trans	50000		700	350 J	11 U	11 U	11 U	12 U
Dichloroethylene-1,1	10000		60	1300 U	11 U	11 U	11 U	12 U
Dichloroethylene-1,2 cis	1000	1000000	400	3200 (AC)	11 U	11 U	11 U	12 U
Dichloropropane-1,2			30	1300 U	11 U	11 U	11 U	12 U
Dichloropropene-1,3 cis			4	1300 U	11 U	11 U	11 U	12 U
Dichloropropene-1,3 trans			4	1300 U	11 U	11 U	11 U	12 U
Ethylbenzene	100000	1000000	13000	2000	11 U	11 U	11 U	12 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				1300 U	11 U	11 U	11 U	12 U

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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-60	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB60-SS	MA-SB62-SS-1	MA-SB66-SS-0.5	MA-SB67-SS-1.0	MA-SB68-SS-1.0
Sample Date				10/16/2001	12/12/2001	12/13/2001	12/12/2001	12/13/2001
Sample Interval				1.5 - 2 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DA4	B0DX1	B0DZ5	B0DX4	B0DY7
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				1300 U	11 U	11 U	11 U	12 U
Isopropylbenzene				1300 U	11 U	11 U	11 U	12 U
Methyl acetate				1300	11 U	11 U	11 U	12 U
Methyl cyclohexane				230 J	11 U	11 U	11 U	12 U
Methyl ethyl ketone (2-butanone)	50000			250 J	11 U	11 U	8 J	12 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			470 J	11 U	11 U	11 U	12 U
Methyl tertiary butyl ether (MTBE)				1300 UJ	11 U	11 U	11 U	12 U
Methylene chloride	1000		20	1300 U	11 U	14 U	13 U	32 U
Styrene	100000		4000	1300 U	11 U	11 U	11 U	12 U
Tetrachloroethane-1,1,2,2	1000		3	1300 U	11 U	11 U	11 U	12 U
Tetrachloroethylene	1000	6000	60	1200 (AC)	11 U	11 U	11 U	12 U
Toluene	500000	1000000	12000	7600	11 U	11 U	11 U	2 J
Trichlorobenzene-1,2,4	100000		5000	1300 U	11 U	11 U	11 U	12 U
Trichloroethane-1,1,1	50000		2000	2000 (C)	11 U	11 U	11 U	12 U
Trichloroethane-1,1,2	1000		20	1300 U	11 U	11 U	11 U	12 U
Trichloroethylene	1000	54000	60	710 J (C)	11 U	11 U	11 U	12 U
Trichlorofluoromethane				1300 U	11 U	1 J	11 U	1 J
Vinyl chloride	10000	7000	10	320 J (C)	11 U	11 U	11 U	12 U
Xylenes, total	67000		210000	7500	11 U	11 U	11 U	12 U

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-69	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB69-SS-1.0	MA-SB71-SS-0.5	MA-SB72-SS-0.5	MA-SB75-SS-1.0	MA-SB77-SS-1.0
Sample Date			F20	12/12/2001	12/13/2001	12/13/2001	12/12/2001	12/12/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DW7	B0DZ3	B0DY9	B0DW6	B0DX8
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	22 UJ	6 J	21	28 UJ	16 UJ
Benzene	1000	13000	30	11 U	18 U	12 U	11 U	13 U
Bromoform	1000		800	11 U	18 U	12 U	11 U	13 U
Bromomethane	1000	1000000	200	11 U	18 U	12 U	11 U	13 U
Carbon disulfide			32000	11 U	18 U	12 U	11 U	13 U
Carbon tetrachloride	1000		70	11 U	18 U	12 U	11 U	13 U
Chlorobenzene	1000		1000	11 U	18 U	12 U	11 U	13 U
Chloroethane				11 U	18 U	12 U	11 U	13 U
Chloroform	1000	28000	600	11 U	18 U	12 U	11 U	13 U
Chloromethane	10000			11 U	18 U	12 U	11 U	13 U
Cyclohexane				11 U	18 U	12 U	11 U	13 U
DBCP (1,2-dibromo-3-chloropropane)				11 U	18 U	12 U	11 U	13 U
Dibromochloromethane	1000		400	11 U	18 U	12 U	11 U	13 U
Dibromoethane-1,2				11 U	18 U	12 U	11 U	13 U
Dichlorobenzene-1,2	50000		17000	11 U	18 U	12 U	11 U	13 U
Dichlorobenzene-1,3	100000			11 U	18 U	12 U	11 U	13 U
Dichlorobenzene-1,4	100000		2000	11 U	18 U	12 U	11 U	13 U
Dichlorobromomethane	1000		600	11 U	18 U	12 U	11 U	13 U
Dichlorodifluoromethane				11 UJ	18 U	12 U	11 UJ	13 UJ
Dichloroethane-1,1	10000		23000	11 U	18 U	12 U	11 U	13 U
Dichloroethane-1,2	1000		20	11 U	18 U	12 U	11 U	13 U
Dichloroethene-1,2 trans	50000		700	11 U	18 U	12 U	11 U	13 U
Dichloroethylene-1,1	10000		60	11 U	18 U	12 U	11 U	13 U
Dichloroethylene-1,2 cis	1000	1000000	400	11 U	18 U	12 U	11 U	13 U
Dichloropropane-1,2			30	11 U	18 U	12 U	11 U	13 U
Dichloropropene-1,3 cis			4	11 U	18 U	12 U	11 U	13 U
Dichloropropene-1,3 trans			4	11 U	18 U	12 U	11 U	13 U
Ethylbenzene	100000	1000000	13000	11 U	18 U	12 U	11 U	13 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				11 U	18 U	12 U	11 U	13 U

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-69	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB69-SS-1.0	MA-SB71-SS-0.5	MA-SB72-SS-0.5	MA-SB75-SS-1.0	MA-SB77-SS-1.0
Sample Date			F20	12/12/2001	12/13/2001	12/13/2001	12/12/2001	12/12/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DW7	B0DZ3	B0DY9	B0DW6	B0DX8
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				11 U	18 U	12 U	11 U	13 U
Isopropylbenzene				11 U	18 U	12 U	11 U	13 U
Methyl acetate				11 U	18 U	12 U	11 U	13 U
Methyl cyclohexane				11 U	18 U	12 U	11 U	13 U
Methyl ethyl ketone (2-butanone)	50000			11 U	18 U	12 U	11 U	13 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			11 U	18 U	12 U	11 U	13 U
Methyl tertiary butyl ether (MTBE)				11 U	18 U	12 U	11 U	13 U
Methylene chloride	1000		20	12 U	18 U	12 U	13 U	16 U
Styrene	100000		4000	11 U	18 U	12 U	11 U	13 U
Tetrachloroethane-1,1,2,2	1000		3	11 U	18 U	12 U	11 U	13 U
Tetrachloroethylene	1000	6000	60	11 U	18 U	12 U	11 U	13 U
Toluene	500000	1000000	12000	11 U	18 U	12 U	11 U	13 U
Trichlorobenzene-1,2,4	100000		5000	11 U	18 U	12 U	11 U	13 U
Trichloroethane-1,1,1	50000		2000	11 U	18 U	12 U	11 U	13 U
Trichloroethane-1,1,2	1000		20	11 U	18 U	12 U	11 U	13 U
Trichloroethylene	1000	54000	60	11 U	18 U	12 U	11 U	13 U
Trichlorofluoromethane				11 U	18 U	12 U	11 U	13 U
Vinyl chloride	10000	7000	10	11 U	18 U	12 U	11 U	13 U
Xylenes, total	67000		210000	11 U	18 U	12 U	11 U	13 U

J - Reported value estimated in quantity
R - Rejected Result
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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-78	MA-SB-79	MA-SB-81	MA-SB-81	MA-SB-82
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB78-SS-0.5	MA-SB79-SS-0.5	MA-SB81-SS	MA-SB81-SS-D	MA-SB82-SS
Sample Date				12/13/2001	12/13/2001	10/18/2001	10/18/2001	10/19/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DY5	B0DZ1	B0DE1	B0DD9	B0DE8
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	11 J	9 J	14 UJ	17 UJ	22 J
Benzene	1000	13000	30	10 U	11 U	14 U	17 U	38 U
Bromoform	1000		800	10 U	11 U	14 U	17 U	38 U
Bromomethane	1000	1000000	200	10 U	11 U	14 U	17 U	38 U
Carbon disulfide			32000	10 U	11 U	11 J	8 J	38 U
Carbon tetrachloride	1000		70	10 U	11 U	14 U	17 U	38 U
Chlorobenzene	1000		1000	10 U	11 U	14 U	17 U	38 U
Chloroethane				10 U	11 U	14 U	17 U	38 U
Chloroform	1000	28000	600	10 U	11 U	14 U	17 U	38 U
Chloromethane	10000			10 U	11 U	14 U	17 U	38 U
Cyclohexane				10 U	11 U	14 U	17 U	38 U
DBCP (1,2-dibromo-3-chloropropane)				10 U	11 U	14 UJ	17 U	38 U
Dibromochloromethane	1000		400	10 U	11 U	14 U	17 U	38 U
Dibromoethane-1,2				10 U	11 U	14 U	17 U	38 U
Dichlorobenzene-1,2	50000		17000	10 U	11 U	14 U	17 U	38 U
Dichlorobenzene-1,3	100000			10 U	11 U	14 U	17 U	38 U
Dichlorobenzene-1,4	100000		2000	10 U	11 U	14 U	17 U	38 U
Dichlorobromomethane	1000		600	10 U	11 U	14 U	17 U	38 U
Dichlorodifluoromethane				10 UJ	11 U	4 U	17 U	38 U
Dichloroethane-1,1	10000		23000	10 U	11 U	14 U	17 U	38 U
Dichloroethane-1,2	1000		20	10 U	11 U	14 U	17 U	38 U
Dichloroethene-1,2 trans	50000		700	10 U	11 U	14 U	17 U	38 U
Dichloroethylene-1,1	10000		60	10 U	11 U	14 U	17 U	38 U
Dichloroethylene-1,2 cis	1000	1000000	400	10 U	11 U	14 U	17 U	38 U
Dichloropropane-1,2			30	10 U	11 U	14 U	17 U	38 U
Dichloropropene-1,3 cis			4	10 U	11 U	14 U	17 U	38 U
Dichloropropene-1,3 trans			4	10 U	11 U	14 U	17 U	38 U
Ethylbenzene	100000	1000000	13000	10 U	11 U	14 U	17 U	38 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				10 U	11 U	14 U	17 U	38 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-78	MA-SB-79	MA-SB-81	MA-SB-81	MA-SB-82
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB78-SS-0.5	MA-SB79-SS-0.5	MA-SB81-SS	MA-SB81-SS-D	MA-SB82-SS
Sample Date			F20	12/13/2001	12/13/2001	10/18/2001	10/18/2001	10/19/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DY5	B0DZ1	B0DE1	B0DD9	B0DE8
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				10 U	11 U	14 UJ	17 U	38 U
Isopropylbenzene				10 U	11 U	14 U	17 U	38 U
Methyl acetate				10 U	11 U	14 U	17 U	38 U
Methyl cyclohexane				10 U	11 U	14 U	17 U	38 U
Methyl ethyl ketone (2-butanone)	50000			10 U	11 U	14 U	17 U	38 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			10 U	11 U	14 UJ	17 U	38 U
Methyl tertiary butyl ether (MTBE)				10 U	11 U	14 U	17 U	38 U
Methylene chloride	1000		20	20 U	16 U	14 U	17 U	38 U
Styrene	100000		4000	10 U	11 U	14 U	17 U	38 U
Tetrachloroethane-1,1,2,2	1000		3	10 U	11 U	14 U	17 U	38 U
Tetrachloroethylene	1000	6000	60	10 U	11 U	64 (C)	84 (C)	58
Toluene	500000	1000000	12000	10 U	11 U	14 U	17 U	38 U
Trichlorobenzene-1,2,4	100000		5000	10 U	11 U	14 U	17 U	38 U
Trichloroethane-1,1,1	50000		2000	10 U	11 U	14 U	17 U	38 U
Trichloroethane-1,1,2	1000		20	10 U	11 U	14 U	17 U	38 U
Trichloroethylene	1000	54000	60	10 U	11 U	14 U	4 J	38 U
Trichlorofluoromethane				10 U	11 U	14 U	17 U	38 U
Vinyl chloride	10000	7000	10	10 U	11 U	14 U	17 U	38 U
Xylenes, total	67000		210000	10 U	11 U	14 U	17 U	38 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-85	MA-SB-96	MA-SB-97	MA-SB-98	MA-SO-201
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB85-SS-1.0	MA-SB96-SS	MA-SB97-SS	MA-SB98-SS	MA-SO201-SS
Sample Date			F20	12/17/2001	10/22/2001	10/22/2001	10/22/2001	10/17/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft
CLP Sample ID				B0FW1	B0DG5	B0DG3	B0DH2	B0DB8
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	11 U	13 UJ	8 J	9 J	1300 UJ
Benzene	1000	13000	30	11 U	13 UJ	16 U	16 UJ	4500 (AC)
Bromoform	1000		800	11 U	13 UJ	16 U	16 UJ	1300 U
Bromomethane	1000	1000000	200	11 U	13 UJ	16 U	16 UJ	1300 U
Carbon disulfide			32000	11 U	13 UJ	16 U	16 UJ	1300 U
Carbon tetrachloride	1000		70	11 U	13 UJ	16 U	16 UJ	1300 U
Chlorobenzene	1000		1000	11 U	13 UJ	16 U	16 UJ	1300 U
Chloroethane				11 U	13 UJ	16 U	16 UJ	1300 UJ
Chloroform	1000	28000	600	11 U	13 UJ	16 U	16 UJ	1400 (AC)
Chloromethane	10000			11 U	13 UJ	16 U	16 UJ	1300 U
Cyclohexane				11 U	13 UJ	16 U	16 UJ	1300 U
DBCP (1,2-dibromo-3-chloropropane)				11 U	13 UJ	16 U	16 UJ	1300 U
Dibromochloromethane	1000		400	11 U	13 UJ	16 U	16 UJ	1300 U
Dibromoethane-1,2				11 U	13 UJ	16 U	16 UJ	1300 U
Dichlorobenzene-1,2	50000		17000	11 U	13 UJ	16 U	16 UJ	1000 J
Dichlorobenzene-1,3	100000			11 U	13 UJ	16 U	16 UJ	1300 U
Dichlorobenzene-1,4	100000		2000	11 U	13 UJ	16 U	16 UJ	170 J
Dichlorobromomethane	1000		600	11 U	13 UJ	16 U	16 UJ	1300 U
Dichlorodifluoromethane				11 U	13 UJ	16 U	16 UJ	1300 U
Dichloroethane-1,1	10000		23000	11 U	13 UJ	16 U	16 UJ	810 J
Dichloroethane-1,2	1000		20	11 U	13 UJ	16 U	16 UJ	1300 U
Dichloroethene-1,2 trans	50000		700	11 U	13 UJ	16 U	16 UJ	1300 U
Dichloroethylene-1,1	10000		60	11 U	13 UJ	16 U	16 UJ	1300 U
Dichloroethylene-1,2 cis	1000	1000000	400	11 U	13 UJ	16 U	16 UJ	740 J (C)
Dichloropropane-1,2			30	11 U	13 UJ	16 U	16 UJ	1300 U
Dichloropropene-1,3 cis			4	11 U	13 UJ	16 U	16 UJ	1300 U
Dichloropropene-1,3 trans			4	11 U	13 UJ	16 U	16 UJ	1300 U
Ethylbenzene	100000	1000000	13000	11 U	13 UJ	16 U	16 UJ	7500
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				11 U	13 UJ	16 U	16 UJ	1300 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-85	MA-SB-96	MA-SB-97	MA-SB-98	MA-SO-201
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB85-SS-1.0	MA-SB96-SS	MA-SB97-SS	MA-SB98-SS	MA-SO201-SS
Sample Date				12/17/2001	10/22/2001	10/22/2001	10/22/2001	10/17/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft
CLP Sample ID				B0FW1	B0DG5	B0DG3	B0DH2	B0DB8
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				11 U	13 UJ	16 U	16 UJ	410 J
Isopropylbenzene				11 U	13 UJ	16 U	16 UJ	590 J
Methyl acetate				11 U	13 UJ	16 U	16 UJ	620 J
Methyl cyclohexane				11 U	13 UJ	16 U	16 UJ	730 J
Methyl ethyl ketone (2-butanone)	50000			11 U	13 UJ	16 U	16 UJ	1300 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			11 U	13 UJ	16 U	16 UJ	1300 U
Methyl tertiary butyl ether (MTBE)				11 U	13 UJ	16 U	16 UJ	1300 UJ
Methylene chloride	1000		20	11 U	13 UJ	16 U	16 UJ	1300 U
Styrene	100000		4000	11 U	13 UJ	16 U	16 UJ	1300 U
Tetrachloroethane-1,1,2,2	1000		3	11 U	13 UJ	16 U	16 UJ	1300 U
Tetrachloroethylene	1000	6000	60	11 U	13 UJ	16 U	4 J	3700 (AC)
Toluene	500000	1000000	12000	2 J	2 J	16 U	9 J	5600
Trichlorobenzene-1,2,4	100000		5000	11 U	13 UJ	16 U	16 UJ	5900 (C)
Trichloroethane-1,1,1	50000		2000	11 U	13 UJ	16 U	16 UJ	1300 U
Trichloroethane-1,1,2	1000		20	11 U	13 UJ	16 U	16 UJ	1300 U
Trichloroethylene	1000	54000	60	11 U	13 UJ	16 U	15 J	7900 (AC)
Trichlorofluoromethane				1 J	13 UJ	16 U	16 UJ	1300 U
Vinyl chloride	10000	7000	10	11 U	13 UJ	16 U	16 UJ	1300 U
Xylenes, total	67000		210000	2 J	13 UJ	16 U	16 UJ	48000

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-202	MA-SO-203	MA-SO-204	MA-SO-206	MA-SO-207
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO202-SS-1	MA-SO203-SS	MA-SO204-SS-0.5	MA-SO206-SS-1.5	MA-SO207-SS
Sample Date				12/14/2001	10/19/2001	12/17/2001	12/17/2001	10/22/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				B0FT0	B0DF4	B0FW4	B0FT8	B0DH3
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	13 UJ	9 J	11 U	13 U	38
Benzene	1000	13000	30	13 U	15 U	11 U	13 U	10 U
Bromoform	1000		800	13 U	15 U	11 U	13 U	10 U
Bromomethane	1000	1000000	200	13 U	15 U	11 U	13 U	10 U
Carbon disulfide			32000	13 U	15 U	11 U	13 U	2 J
Carbon tetrachloride	1000		70	13 U	15 U	11 U	13 U	10 U
Chlorobenzene	1000		1000	13 U	15 U	11 U	13 U	10 U
Chloroethane				13 U	15 U	11 U	13 U	10 U
Chloroform	1000	28000	600	13 U	9 J	11 U	13 U	10 U
Chloromethane	10000			13 U	15 U	11 U	13 U	10 U
Cyclohexane				13 U	15 U	11 U	13 U	10 U
DBCP (1,2-dibromo-3-chloropropane)				13 U	15 U	11 U	13 U	10 U
Dibromochloromethane	1000		400	13 U	15 U	11 U	13 U	10 U
Dibromoethane-1,2				13 U	15 U	11 U	13 U	10 U
Dichlorobenzene-1,2	50000		17000	13 U	15 U	11 U	13 U	10 U
Dichlorobenzene-1,3	100000			13 U	15 U	11 U	13 U	10 U
Dichlorobenzene-1,4	100000		2000	13 U	15 U	11 U	13 U	10 U
Dichlorobromomethane	1000		600	13 U	15 U	11 U	13 U	10 U
Dichlorodifluoromethane				13 UJ	15 U	11 U	13 U	10 U
Dichloroethane-1,1	10000		23000	13 U	4 J	11 U	13 U	10 U
Dichloroethane-1,2	1000		20	13 U	15 U	11 U	13 U	10 U
Dichloroethene-1,2 trans	50000		700	13 U	15 U	11 U	13 U	10 U
Dichloroethylene-1,1	10000		60	13 U	15 U	11 U	13 U	10 U
Dichloroethylene-1,2 cis	1000	1000000	400	13 U	15 U	1 J	13 U	10 U
Dichloropropane-1,2			30	13 U	15 U	11 U	13 U	10 U
Dichloropropene-1,3 cis			4	13 U	15 U	11 U	13 U	10 U
Dichloropropene-1,3 trans			4	13 U	15 U	11 U	13 U	10 U
Ethylbenzene	100000	1000000	13000	13 U	15 U	11 U	13 U	10 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				13 U	15 U	11 U	13 U	10 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-202	MA-SO-203	MA-SO-204	MA-SO-206	MA-SO-207
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO202-SS-1	MA-SO203-SS	MA-SO204-SS-0.5	MA-SO206-SS-1.5	MA-SO207-SS
Sample Date				12/14/2001	10/19/2001	12/17/2001	12/17/2001	10/22/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				B0FT0	B0DF4	B0FW4	B0FT8	B0DH3
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				13 U	15 U	11 U	13 U	10 U
Isopropylbenzene				13 U	15 U	11 U	13 U	10 U
Methyl acetate				13 U	15 U	11 U	13 U	10 U
Methyl cyclohexane				13 U	15 U	11 U	13 U	10 U
Methyl ethyl ketone (2-butanone)	50000			13 U	15 U	11 U	13 U	3 J
Methyl isobutyl ketone (4-methyl-2-penta	50000			13 U	15 U	11 U	13 U	10 U
Methyl tertiary butyl ether (MTBE)				13 U	15 U	11 U	13 U	10 U
Methylene chloride	1000		20	27 U	15 U	11 U	13 U	10 U
Styrene	100000		4000	13 U	15 U	11 U	13 U	10 U
Tetrachloroethane-1,1,2,2	1000		3	13 U	15 U	11 U	13 U	10 U
Tetrachloroethylene	1000	6000	60	13 U	11 J	11 U	13 U	10 U
Toluene	500000	1000000	12000	2 J	15 U	2 J	2 J	10 U
Trichlorobenzene-1,2,4	100000		5000	13 U	15 U	11 U	13 U	10 U
Trichloroethane-1,1,1	50000		2000	13 U	10 J	11 U	13 U	10 U
Trichloroethane-1,1,2	1000		20	13 U	15 U	11 U	13 U	10 U
Trichloroethylene	1000	54000	60	13 U	4 J	1 J	13 U	11
Trichlorofluoromethane				2 J	15 U	2 J	2 J	10 U
Vinyl chloride	10000	7000	10	13 U	15 U	11 U	13 U	10 U
Xylenes, total	67000		210000	13 U	15 U	2 J	1 J	10 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-208	MA-SO-209	MA-SO-210	MA-SO-211	MA-SO-212
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO208-SS	MA-SO209-SS	MA-SO210-SS-0.5	MA-SO211-SS-1.0	MA-SO212-SS-1.0
Sample Date				10/22/2001	10/22/2001	12/14/2001	12/14/2001	12/14/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DH6	B0DH8RE	B0FW3	B0FT2	B0FT4
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	4 J	21 J	6 J	2 J	18 UJ
Benzene	1000	13000	30	15 U	18 U	12 U	12 U	18 U
Bromoform	1000		800	15 U	18 U	12 U	12 U	18 U
Bromomethane	1000	1000000	200	15 U	18 U	12 U	12 U	18 U
Carbon disulfide			32000	15 U	18 U	12 U	12 U	18 U
Carbon tetrachloride	1000		70	15 U	18 U	12 U	12 U	18 U
Chlorobenzene	1000		1000	15 U	18 UJ	12 U	12 U	18 U
Chloroethane				15 U	18 U	12 U	12 U	18 U
Chloroform	1000	28000	600	15 U	18 U	12 U	12 U	18 U
Chloromethane	10000			15 U	18 U	12 U	12 U	18 U
Cyclohexane				15 U	18 U	12 U	12 U	18 U
DBCP (1,2-dibromo-3-chloropropane)				15 U	18 UJ	12 U	12 U	18 U
Dibromochloromethane	1000		400	15 U	18 UJ	12 U	12 U	18 U
Dibromoethane-1,2				15 U	18 UJ	12 U	12 U	18 U
Dichlorobenzene-1,2	50000		17000	15 U	18 UJ	12 U	12 U	18 U
Dichlorobenzene-1,3	100000			15 U	18 UJ	12 U	12 U	18 U
Dichlorobenzene-1,4	100000		2000	15 U	18 UJ	12 U	12 U	18 U
Dichlorobromomethane	1000		600	15 U	18 U	12 U	12 U	18 U
Dichlorodifluoromethane				15 U	18 U	12 UJ	12 UJ	18 UJ
Dichloroethane-1,1	10000		23000	15 U	18 U	12 U	12 U	18 U
Dichloroethane-1,2	1000		20	15 U	18 U	12 U	12 U	18 U
Dichloroethene-1,2 trans	50000		700	15 U	18 U	12 U	12 U	18 U
Dichloroethylene-1,1	10000		60	15 U	18 U	12 U	12 U	18 U
Dichloroethylene-1,2 cis	1000	1000000	400	15 U	18 U	1 J	12 U	18 U
Dichloropropane-1,2			30	15 U	18 U	12 U	12 U	18 U
Dichloropropene-1,3 cis			4	15 U	18 U	12 U	12 U	18 U
Dichloropropene-1,3 trans			4	15 U	18 U	12 U	12 U	18 U
Ethylbenzene	100000	1000000	13000	15 U	18 UJ	12 U	12 U	18 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				15 U	18 U	12 U	12 U	18 U

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-208	MA-SO-209	MA-SO-210	MA-SO-211	MA-SO-212
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO208-SS	MA-SO209-SS	MA-SO210-SS-0.5	MA-SO211-SS-1.0	MA-SO212-SS-1.0
Sample Date				10/22/2001	10/22/2001	12/14/2001	12/14/2001	12/14/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DH6	B0DH8RE	B0FW3	B0FT2	B0FT4
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				15 U	18 UJ	12 U	12 U	18 U
Isopropylbenzene				15 U	18 UJ	12 U	12 U	18 U
Methyl acetate				15 U	18 U	12 U	12 U	18 U
Methyl cyclohexane				15 U	18 U	12 U	12 U	18 U
Methyl ethyl ketone (2-butanone)	50000			15 UJ	18 U	12 U	12 U	18 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			15 U	18 UJ	12 U	12 U	18 U
Methyl tertiary butyl ether (MTBE)				15 U	18 U	12 U	12 U	18 U
Methylene chloride	1000		20	15 U	18 U	16 U	12 U	24 U
Styrene	100000		4000	15 U	18 UJ	12 U	12 U	18 U
Tetrachloroethane-1,1,2,2	1000		3	15 U	18 UJ	12 U	12 U	18 U
Tetrachloroethylene	1000	6000	60	15 U	18 UJ	12 U	12 U	18 U
Toluene	500000	1000000	12000	15 U	18 UJ	2 J	1 J	3 J
Trichlorobenzene-1,2,4	100000		5000	15 UJ	18 UJ	12 U	12 U	18 U
Trichloroethane-1,1,1	50000		2000	15 U	18 U	12 U	12 U	18 U
Trichloroethane-1,1,2	1000		20	15 U	18 U	12 U	12 U	18 U
Trichloroethylene	1000	54000	60	15 U	18 U	12 U	12 U	18 U
Trichlorofluoromethane				15 U	18 U	1 J	12 U	18 U
Vinyl chloride	10000	7000	10	15 U	18 U	12 U	12 U	18 U
Xylenes, total	67000		210000	15 U	18 UJ	12 U	12 U	2 J

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-212	MA-SO-213	MA-SO-214	MA-SO-301	MA-SO-301
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SO212-SS-1.0D	MA-SO213-SS-1.0	MA-SO214-SS	MA-SO301-SS-1.0	MA-SO301-SS-1.0D
Sample Date			F20	12/14/2001	12/14/2001	10/18/2001	12/13/2001	12/13/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0FT7	B0FT5	B0DD2	B0DY2	B0DY3
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	12 UJ	12 UJ	460 J	11 J	15 UJ
Benzene	1000	13000	30	12 UJ	12 U	2 J	14 U	15 U
Bromoform	1000		800	12 UJ	12 U	19 U	14 U	15 U
Bromomethane	1000	1000000	200	12 UJ	12 U	19 U	14 U	15 U
Carbon disulfide			32000	12 UJ	12 U	19 U	14 U	15 U
Carbon tetrachloride	1000		70	12 UJ	12 U	19 U	14 U	15 U
Chlorobenzene	1000		1000	12 R	12 U	19 UJ	14 U	15 U
Chloroethane				12 UJ	12 U	19 U	14 U	15 U
Chloroform	1000	28000	600	12 UJ	12 U	19 U	14 U	15 U
Chloromethane	10000			12 UJ	12 U	19 U	14 U	15 U
Cyclohexane				12 UJ	12 U	19 U	14 U	15 U
DBCP (1,2-dibromo-3-chloropropane)				12 R	12 U	19 UJ	14 U	15 U
Dibromochloromethane	1000		400	12 UJ	12 U	19 U	14 U	15 U
Dibromoethane-1,2				12 R	12 U	19 UJ	14 U	15 U
Dichlorobenzene-1,2	50000		17000	12 R	12 U	19 UJ	14 U	15 U
Dichlorobenzene-1,3	100000			12 R	12 U	19 UJ	14 U	15 U
Dichlorobenzene-1,4	100000		2000	12 R	12 U	19 UJ	14 U	15 U
Dichlorobromomethane	1000		600	12 UJ	12 U	19 U	14 U	15 U
Dichlorodifluoromethane				12 UJ	12 U	19 U	14 UJ	15 UJ
Dichloroethane-1,1	10000		23000	12 UJ	12 U	19 U	14 U	15 U
Dichloroethane-1,2	1000		20	12 UJ	12 U	19 U	14 U	15 U
Dichloroethene-1,2 trans	50000		700	12 UJ	12 U	19 U	14 U	15 U
Dichloroethylene-1,1	10000		60	12 UJ	12 U	19 U	14 U	15 U
Dichloroethylene-1,2 cis	1000	1000000	400	12 UJ	12 U	19 U	14 U	15 U
Dichloropropane-1,2			30	12 UJ	12 U	19 U	14 U	15 U
Dichloropropene-1,3 cis			4	12 UJ	12 U	19 U	14 U	15 U
Dichloropropene-1,3 trans			4	12 UJ	12 U	19 U	14 U	15 U
Ethylbenzene	100000	1000000	13000	12 R	12 U	19 UJ	14 U	15 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				12 UJ	12 UJ	19 U	14 U	15 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-212	MA-SO-213	MA-SO-214	MA-SO-301	MA-SO-301
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO212-SS-1.0D	MA-SO213-SS-1.0	MA-SO214-SS	MA-SO301-SS-1.0	MA-SO301-SS-1.0D
Sample Date				12/14/2001	12/14/2001	10/18/2001	12/13/2001	12/13/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0FT7	B0FT5	B0DD2	B0DY2	B0DY3
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				12 R	12 U	19 UJ	14 U	15 U
Isopropylbenzene				12 R	12 U	19 UJ	14 U	15 U
Methyl acetate				12 UJ	12 U	19 U	14 U	15 U
Methyl cyclohexane				12 UJ	12 U	19 U	14 U	15 U
Methyl ethyl ketone (2-butanone)	50000			12 UJ	12 U	32	14 U	15 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			12 R	12 U	19 UJ	14 U	15 U
Methyl tertiary butyl ether (MTBE)				12 UJ	12 U	19 U	14 U	15 U
Methylene chloride	1000		20	28 UJ	13 U	19 U	14 U	15 U
Styrene	100000		4000	12 R	12 U	19 UJ	14 U	15 U
Tetrachloroethane-1,1,2,2	1000		3	12 R	12 U	19 UJ	14 U	15 U
Tetrachloroethylene	1000	6000	60	12 R	12 U	21 J	14 U	15 U
Toluene	500000	1000000	12000	3 J	12 U	16 J	14 U	15 U
Trichlorobenzene-1,2,4	100000		5000	12 R	12 U	19 UJ	14 U	15 U
Trichloroethane-1,1,1	50000		2000	12 UJ	12 U	19 U	14 U	15 U
Trichloroethane-1,1,2	1000		20	12 UJ	12 U	19 U	14 U	15 U
Trichloroethylene	1000	54000	60	12 UJ	12 U	3 J	14 U	15 U
Trichlorofluoromethane				12 UJ	12 UJ	19 U	14 U	15 U
Vinyl chloride	10000	7000	10	12 UJ	12 U	19 U	14 U	15 U
Xylenes, total	67000		210000	2 J	12 U	19 UJ	14 U	15 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-401	MA-SO-402
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO302-SS-1.0	MA-SO303-SS-1.0	MA-SO401-SS-1.0	MA-SO401-SS-1.0D	MA-SO402-SS-1.0
Sample Date				12/12/2001	12/13/2001	12/17/2001	12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DW9	B0DY0	B0FX7	B0FW8	B0FX6
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	20 UJ	9 J	18	17	4 J
Benzene	1000	13000	30	15 U	13 U	14 U	14 U	13 U
Bromoform	1000		800	15 U	13 U	14 U	14 U	13 U
Bromomethane	1000	1000000	200	15 U	13 U	14 U	14 U	13 U
Carbon disulfide			32000	15 U	13 U	14 U	2 J	13 U
Carbon tetrachloride	1000		70	15 U	13 U	14 U	14 U	13 U
Chlorobenzene	1000		1000	15 U	13 U	14 U	14 U	13 U
Chloroethane				15 U	13 U	14 U	14 U	13 U
Chloroform	1000	28000	600	15 U	13 U	14 U	2 J	2 J
Chloromethane	10000			15 U	13 U	14 U	14 U	13 U
Cyclohexane				15 U	13 U	14 U	14 U	13 U
DBCP (1,2-dibromo-3-chloropropane)				15 U	13 U	14 U	14 U	13 U
Dibromochloromethane	1000		400	15 U	13 U	14 U	14 U	13 U
Dibromoethane-1,2				15 U	13 U	14 U	14 U	13 U
Dichlorobenzene-1,2	50000		17000	15 U	13 U	14 U	14 U	13 U
Dichlorobenzene-1,3	100000			15 U	13 U	14 U	14 U	13 U
Dichlorobenzene-1,4	100000		2000	15 U	13 U	14 U	14 U	13 U
Dichlorobromomethane	1000		600	15 U	13 U	14 U	14 U	13 U
Dichlorodifluoromethane				15 UJ	13 U	14 U	14 U	13 U
Dichloroethane-1,1	10000		23000	15 U	13 U	14 U	14 U	13 U
Dichloroethane-1,2	1000		20	15 U	13 U	14 U	14 U	13 U
Dichloroethene-1,2 trans	50000		700	15 U	13 U	14 U	14 U	13 U
Dichloroethylene-1,1	10000		60	15 U	13 U	14 U	14 U	13 U
Dichloroethylene-1,2 cis	1000	1000000	400	15 U	13 U	14 U	14 U	13 U
Dichloropropane-1,2			30	15 U	13 U	14 U	14 U	13 U
Dichloropropene-1,3 cis			4	15 U	13 U	14 U	14 U	13 U
Dichloropropene-1,3 trans			4	15 U	13 U	14 U	14 U	13 U
Ethylbenzene	100000	1000000	13000	15 U	13 U	14 U	14 U	13 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				15 U	13 U	14 U	14 U	13 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

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Station ID	(A)	(B)	(C)	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-401	MA-SO-402
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO302-SS-1.0	MA-SO303-SS-1.0	MA-SO401-SS-1.0	MA-SO401-SS-1.0D	MA-SO402-SS-1.0
Sample Date				12/12/2001	12/13/2001	12/17/2001	12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DW9	B0DY0	B0FX7	B0FW8	B0FX6
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				15 U	13 U	14 U	14 U	13 U
Isopropylbenzene				15 U	13 U	14 U	14 U	13 U
Methyl acetate				15 U	13 U	14 U	14 U	13 U
Methyl cyclohexane				15 U	13 U	14 U	14 U	13 U
Methyl ethyl ketone (2-butanone)	50000			15 U	13 U	14 U	14 U	13 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			15 U	13 U	14 U	14 U	13 U
Methyl tertiary butyl ether (MTBE)				15 U	13 U	14 U	14 U	13 U
Methylene chloride	1000		20	15 U	13 U	14 U	14 U	13 U
Styrene	100000		4000	15 U	13 U	14 U	14 U	13 U
Tetrachloroethane-1,1,2,2	1000		3	15 U	13 U	14 U	14 U	13 U
Tetrachloroethylene	1000	6000	60	15 U	13 U	14 U	14 U	13 U
Toluene	500000	1000000	12000	15 U	13 U	14 U	14 U	2 J
Trichlorobenzene-1,2,4	100000		5000	15 U	13 U	14 U	14 U	13 U
Trichloroethane-1,1,1	50000		2000	15 U	13 U	14 U	14 U	13 U
Trichloroethane-1,1,2	1000		20	15 U	13 U	14 U	14 U	13 U
Trichloroethylene	1000	54000	60	15 U	13 U	14 U	2 J	3 J
Trichlorofluoromethane				15 U	13 U	14 UJ	14 UJ	2 J
Vinyl chloride	10000	7000	10	15 U	13 U	14 U	14 U	13 U
Xylenes, total	67000		210000	15 U	13 U	14 U	14 U	2 J

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-403	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO403-SS-1.0	MA-SO404-SS-1.0
Sample Date				12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0FX2	B0FX5
Chemical Name					
Volatile Organic Compounds (ug/Kg)					
Acetone	100000		16000	2 J	3 J
Benzene	1000	13000	30	12 U	17 U
Bromoform	1000		800	12 U	17 U
Bromomethane	1000	1000000	200	12 U	17 U
Carbon disulfide			32000	12 U	17 U
Carbon tetrachloride	1000		70	12 U	17 U
Chlorobenzene	1000		1000	12 U	17 U
Chloroethane				12 U	17 U
Chloroform	1000	28000	600	12 U	17 U
Chloromethane	10000			12 U	17 U
Cyclohexane				12 U	17 U
DBCP (1,2-dibromo-3-chloropropane)				12 U	17 U
Dibromochloromethane	1000		400	12 U	17 U
Dibromoethane-1,2				12 U	17 U
Dichlorobenzene-1,2	50000		17000	12 U	17 U
Dichlorobenzene-1,3	100000			12 U	17 U
Dichlorobenzene-1,4	100000		2000	12 U	17 U
Dichlorobromomethane	1000		600	12 U	17 U
Dichlorodifluoromethane				12 U	17 U
Dichloroethane-1,1	10000		23000	12 U	17 U
Dichloroethane-1,2	1000		20	12 U	17 U
Dichloroethene-1,2 trans	50000		700	12 U	17 U
Dichloroethylene-1,1	10000		60	12 U	17 U
Dichloroethylene-1,2 cis	1000	1000000	400	12 U	17 U
Dichloropropane-1,2			30	12 U	17 U
Dichloropropene-1,3 cis			4	12 U	17 U
Dichloropropene-1,3 trans			4	12 U	17 U
Ethylbenzene	100000	1000000	13000	12 U	17 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				12 U	17 U

J - Reported value estimated in quantity

R - Rejected Result

U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria

Exceedences highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.1
Surface Soil -Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-403	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO403-SS-1.0	MA-SO404-SS-1.0
Sample Date				12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0FX2	B0FX5
Chemical Name					
Volatile Organic Compounds (ug/Kg)					
Hexanone-2				12 U	17 U
Isopropylbenzene				12 U	17 U
Methyl acetate				12 U	17 U
Methyl cyclohexane				12 U	17 U
Methyl ethyl ketone (2-butanone)	50000			12 U	17 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			12 U	17 U
Methyl tertiary butyl ether (MTBE)				12 U	17 U
Methylene chloride	1000		20	12 U	17 U
Styrene	100000		4000	12 U	17 U
Tetrachloroethane-1,1,2,2	1000		3	12 U	17 U
Tetrachloroethylene	1000	6000	60	12 U	17 U
Toluene	500000	1000000	12000	2 J	2 J
Trichlorobenzene-1,2,4	100000		5000	12 U	17 U
Trichloroethane-1,1,1	50000		2000	12 U	17 U
Trichloroethane-1,1,2	1000		20	12 U	17 U
Trichloroethylene	1000	54000	60	13	17 U
Trichlorofluoromethane				1 J	3 J
Vinyl chloride	10000	7000	10	12 U	17 U
Xylenes, total	67000		210000	1 J	2 J

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-02	MA-SB-04	MA-SB-06	MA-SB-08	MA-SB-09
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB02-SS	MA-SB04-SS	MA-SB06-SS	MA-SB08-SS	MA-SB09-SS
Sample Date			F20	10/18/2001	10/16/2001	10/15/2001	10/16/2001	10/15/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	0.5 - 1 ft
CLP Sample ID				B0DD7	B0DA6	B0D96	B0DA9	B0D91
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	17000 J	370 U	8400 J	200 J	130 J
Acenaphthylene			4200000	1200 J	370 U	540 J	3700 U	87 J
Acetophenone				11000 UJ	370 U	10000 U	3700 U	360 U
Anthracene	100000		12000000	61000 J	14 J	23000	530 J	290 J
Atrazine				11000 UJ	370 U	10000 U	3700 U	360 U
Benzaldehyde				160 J	41 J	10000 U	3700 U	54 J
Benzo(a)anthracene	500000	4000	2000	120000 J (BC)	57 J	21000 (BC)	1900 J	1000
Benzo(a)pyrene	100000	660	8000	110000 J (ABC)	64 J	20000 (BC)	2400 J (B)	1200 J (B)
Benzo(b)fluoranthene	50000	4000	5000	11000 J (ABC)	80 J	24000 (BC)	3000 J	1500
Benzo(g,h,i)perylene			4200000	58000 J	370 U	9500 J	1600 J	640
Benzo(k)fluoranthene	500000	4000	49000	71000 J (BC)	47 J	12000 (B)	1900 J	880
Biphenyl				2000 J	370 U	10000 U	3700 U	54 J
Bromophenyl-4 Phenyl Ether				11000 UJ	370 U	10000 U	3700 U	360 U
Butylbenzyl phthalate	100000		930000	11000 UJ	370 U	10000 U	3700 U	62 J
Caprolactam				11000 UJ	370 U	10000 U	3700 U	360 U
Carbazole			600	12000 J (C)	370 U	2400 J (C)	140 J	170 J
Chloroaniline-4			700	11000 UJ	370 U	10000 U	3700 U	360 U
Chloronaphthalene-2				11000 UJ	370 U	10000 U	3700 U	360 U
Chlorophenol-2	10000		4000	11000 UJ	370 U	10000 U	3700 U	360 U
Chlorophenyl-4 phenyl ether				11000 UJ	370 U	10000 U	3700 U	360 U
Chrysene	500000	40000	160000	120000 J (B)	58 J	20000	1900 J	1000
Cresol-4,6-dinitro-ortho				28000 UJ	920 U	26000 U	9200 U	900 UJ
Cresol-o			15000	11000 UJ	370 U	10000 U	3700 U	52 J
Cresol-p				11000 UJ	370 U	10000 U	3700 U	120 J
Cresol-parachloro-meta	100000		4000	11000 UJ	370 U	10000 U	3700 U	360 U
Dibenzo(a,h)anthracene	100000	660	2000	19000 J (BC)	12 J	15400 J (BC)	710 J (B)	210 J
Dibenzofuran				10000 J	370 U	4500 J	120 J	81 J
Dichlorobenzidine-3,3	100000		7	11000 UJ	370 U	10000 U	3700 U	360 U
Dichlorophenol-2,4	10000		1000	11000 UJ	370 U	10000 U	3700 U	360 U

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R - Rejected Result
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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-02	MA-SB-04	MA-SB-06	MA-SB-08	MA-SB-09
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB02-SS	MA-SB04-SS	MA-SB06-SS	MA-SB08-SS	MA-SB09-SS
Sample Date				10/18/2001	10/16/2001	10/15/2001	10/16/2001	10/15/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	0.5 - 1 ft
CLP Sample ID				B0DD7	B0DA6	B0D96	B0DA9	B0D91
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	11000 UJ	370 U	10000 U	3700 U	65 J
Dinitrophenol-2,4	10000		300	28000 UJ	920 U	26000 U	9200 U	900 UJ
Dinitrotoluene-2,4			0.8	11000 UJ	370 U	10000 U	3700 U	360 U
Dinitrotoluene-2,6			0.7	11000 UJ	370 U	10000 U	3700 U	360 U
Ether, bis(2-chloroethyl)	10000		0.4	11000 UJ	370 U	10000 U	3700 U	360 U
Ether, bis-chloroisopropyl	10000			11000 UJ	370 U	10000 U	3700 U	360 U
Fluoranthene	100000	10000000	4300000	290000 J (A)	100 J	48000	3400 J	2200
Fluorene	100000		560000	22000 J	370 U	10000	200 J	190 J
Hexachlorobenzene	100000		2000	11000 UJ	370 U	10000 U	3700 U	360 U
Hexachlorobutadiene	100000		2000	11000 UJ	370 U	10000 U	3700 U	360 U
Hexachlorocyclopentadiene	100000		400000	11000 UJ	370 U	10000 U	3700 U	360 UJ
Hexachloroethane	100000		500	11000 UJ	370 U	10000 U	3700 U	360 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	59000 J (BC)	54 J	12000 (B)	2000 J	800
Isophorone	50000		500	11000 UJ	370 U	10000 U	3700 U	23 J
Methane, bis(2-chloroethoxy)				11000 UJ	370 U	10000 U	3700 U	360 U
Methylnaphthalene-2				7200 J	370 U	730 J	3700 U	90 J
Naphthalene	100000	4200000	84000	10000 J	370 U	470 J	3700 U	400
Nitroaniline-2				28000 UJ	920 U	26000 U	9200 U	900 U
Nitroaniline-3				28000 UJ	920 U	26000 U	9200 U	900 U
Nitroaniline-4				28000 UJ	920 U	26000 U	9200 U	900 U
Nitrobenzene	10000		100	11000 UJ	370 U	10000 U	3700 U	360 U
Nitrophenol-2				11000 UJ	370 U	10000 U	3700 U	360 U
Nitrophenol-4				28000 UJ	920 U	26000 U	9200 U	900 U
Nitroso-di-n-propyl-amine-N	10000		0.05	11000 UJ	370 U	10000 U	3700 U	360 U
Nitrosodiphenylamine-n	100000		1000	11000 UJ	370 U	10000 U	3700 U	360 U
PCP (Pentachlorophenol)	100000		30	28000 UJ	920 U	26000 U	9200 U	900 U
Phenanthrene			4200000	220000 J	57 J	51000	1700 J	1200
Phenol	50000		100000	11000 UJ	370 U	10000 U	3700 U	360 U
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		1400 J	370 U	10000 U	8900	6200

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-02	MA-SB-04	MA-SB-06	MA-SB-08	MA-SB-09
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB02-SS	MA-SB04-SS	MA-SB06-SS	MA-SB08-SS	MA-SB09-SS
Sample Date			F20	10/18/2001	10/16/2001	10/15/2001	10/16/2001	10/15/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	0.5 - 1 ft
CLP Sample ID				B0DD7	B0DA6	B0D96	B0DA9	B0D91
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	11000 UJ	2300	10000 U	9100	170 J
Phthalate, di-n-octyl	100000		10000000	11000 UJ	370 U	10000 U	3700 U	280 J
Phthalate, diethyl	50000			11000 UJ	370 U	10000 U	3700 U	10 J
Phthalate, dimethyl	50000			11000 UJ	370 U	10000 U	3700 U	360 U
Pyrene	100000	10000000	4200000	2300000 J (A)	87 J	37000	2600 J	2000
Trichlorophenol-2,4,5	50000		270000	28000 UJ	920 U	26000 U	9200 U	900 U
Trichlorophenol-2,4,6	10000		200	11000 UJ	370 U	10000 U	3700 U	360 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

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Station ID	(A)	(B)	(C)	MA-SB-106	MA-SB-108	MA-SB-108	MA-SB-11	MA-SB-112
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB106-SS	MA-SB108-SS	MA-SB108-SS-D	MA-SB11-SS	MA-SB112-SS
Sample Date				10/22/2001	10/22/2001	10/22/2001	10/15/2001	10/17/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				B0DG7	B0DF9	B0DG1	B0D99	B0DC4
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	380 U	68 J	390 U	930 J	1200 J
Acenaphthylene			4200000	380 U	59 J	83 J	72 J	2200 J
Acetophenone				380 U	380 U	390 U	1800 U	5600 U
Anthracene	100000		12000000	67 J	250 J	300 J	1400 J	5700
Atrazine				380 U	380 U	390 U	1800 U	5600 U
Benzaldehyde				380 U	380 U	390 U	1400 J	5600 U
Benzo(a)anthracene	500000	4000	2000	410	1500	2100 (C)	5100 (BC)	20000 (BC)
Benzo(a)pyrene	100000	660	8000	530	1200 (B)	1900 (B)	5600 (B)	17000 (BC)
Benzo(b)fluoranthene	50000	4000	5000	470	1600	2400	6900 (BC)	22000 (BC)
Benzo(g,h,i)perylene			4200000	270 J	410 J	950 J	3100	6400
Benzo(k)fluoranthene	500000	4000	49000	360 J	1100	1400	3800	9200 (B)
Biphenyl				380 U	380 U	390 U	47 J	190 J
Bromophenyl-4 Phenyl Ether				380 U	380 U	390 U	1800 U	5600 U
Butylbenzyl phthalate	100000		930000	380 UJ	130 J	110 J	330 J	5600 U
Caprolactam				380 U	380 U	390 U	1800 U	5600 U
Carbazole			600	380 UJ	98 J	84 J	560 J	2500 J (C)
Chloroaniline-4			700	380 U	380 U	390 U	1800 U	5600 U
Chloronaphthalene-2				380 U	380 U	390 U	1800 U	5600 U
Chlorophenol-2	10000		4000	380 U	380 U	390 U	1800 U	5600 U
Chlorophenyl-4 phenyl ether				380 U	380 UJ	390 U	1800 U	5600 U
Chrysene	500000	40000	160000	610	1300	1900	4800	20000
Cresol-4,6-dinitro-ortho				950 R	970 U	990 R	4500 U	14000 U
Cresol-o			15000	380 U	380 U	390 U	1800 U	5600 U
Cresol-p				380 U	380 U	390 U	1800 U	5600 U
Cresol-parachloro-meta	100000		4000	380 U	380 U	390 U	1800 U	5600 U
Dibenzo(a,h)anthracene	100000	660	2000	78 J	290 J	470 J	860 J (B)	3500 J (BC)
Dibenzofuran				380 U	47 J	390 U	340 J	1100 J
Dichlorobenzidine-3,3	100000		7	380 R	380 R	390 R	1800 U	5600 U
Dichlorophenol-2,4	10000		1000	380 U	380 U	390 U	1800 U	5600 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-106	MA-SB-108	MA-SB-108	MA-SB-11	MA-SB-112
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB106-SS	MA-SB108-SS	MA-SB108-SS-D	MA-SB11-SS	MA-SB112-SS
Sample Date			F20	10/22/2001	10/22/2001	10/22/2001	10/15/2001	10/17/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				B0DG7	B0DF9	B0DG1	B0D99	B0DC4
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	380 U	380 U	390 U	1800 U	5600 U
Dinitrophenol-2,4	10000		300	950 R	970 R	990 R	4500 U	14000 U
Dinitrotoluene-2,4			0.8	380 U	380 U	390 U	1800 UJ	5600 U
Dinitrotoluene-2,6			0.7	380 U	380 U	390 U	1800 U	5600 U
Ether, bis(2-chloroethyl)	10000		0.4	380 U	380 U	390 U	1800 U	5600 U
Ether, bis-chloroisopropyl	10000			380 U	380 U	390 U	1800 U	5600 U
Fluoranthene	100000	10000000	4300000	660	2100	2400	11000	33000
Fluorene	100000		560000	380 U	59 J	54 J	580 J	2200 J
Hexachlorobenzene	100000		2000	380 U	380 U	390 U	1800 U	5600 U
Hexachlorobutadiene	100000		2000	380 U	380 U	390 U	1800 U	5600 U
Hexachlorocyclopentadiene	100000		400000	380 U	380 U	390 U	1800 UJ	5600 UJ
Hexachloroethane	100000		500	380 U	380 U	390 U	1800 U	5600 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	260 J	900 J	1500 J	4200 (B)	9800 (B)
Isophorone	50000		500	380 U	380 U	390 U	1800 U	5600 U
Methane, bis(2-chloroethoxy)				380 U	380 U	390 U	1800 U	5600 U
Methylnaphthalene-2				380 U	380 U	390 U	150 J	370 J
Naphthalene	100000	4200000	84000	380 U	380 U	390 U	250 J	1200 J
Nitroaniline-2				950 U	970 U	990 U	4500 U	14000 U
Nitroaniline-3				950 UJ	970 UJ	990 UJ	4500 U	14000 U
Nitroaniline-4				950 UJ	970 R	990 UJ	4500 U	14000 UJ
Nitrobenzene	10000		100	380 U	380 U	390 U	1800 U	5600 U
Nitrophenol-2				380 U	380 U	390 U	1800 U	5600 U
Nitrophenol-4				950 U	970 U	990 U	4500 U	14000 U
Nitroso-di-n-propyl-amine-N	10000		0.05	380 U	380 U	390 U	1800 UJ	5600 UJ
Nitrosodiphenylamine-n	100000		1000	380 U	380 U	390 U	1800 U	5600 U
PCP (Pentachlorophenol)	100000		30	950 U	970 UJ	990 UJ	4500 U	14000 UJ
Phenanthrene			4200000	460	1200	1200	5100	27000
Phenol	50000		100000	380 U	380 U	390 U	1800 U	5600 U
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		380 UJ	270 J	220 J	3400	5600 U

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(A, B, C) - Exceeds criteria
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05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-106	MA-SB-108	MA-SB-108	MA-SB-11	MA-SB-112
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB106-SS	MA-SB108-SS	MA-SB108-SS-D	MA-SB11-SS	MA-SB112-SS
Sample Date				10/22/2001	10/22/2001	10/22/2001	10/15/2001	10/17/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				B0DG7	B0DF9	B0DG1	B0D99	B0DC4
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	48 J	110 J	110 J	1800 U	5600 U
Phthalate, di-n-octyl	100000		10000000	380 UJ	380 R	390 R	1800 U	5600 U
Phthalate, diethyl	50000			380 U	380 U	390 U	1800 UJ	5600 UJ
Phthalate, dimethyl	50000			380 U	380 U	390 U	1800 U	5600 U
Pyrene	100000	10000000	4200000	930	2700	4200	7800	29000
Trichlorophenol-2,4,5	50000		270000	950 U	970 U	990 U	4500 U	14000 U
Trichlorophenol-2,4,6	10000		200	380 U	380 U	390 U	1800 U	5600 UJ

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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB118-SS	MA-SB120-SS	MA-SB122-SS	MA-SB124-SS	MA-SB124-SS-D
Sample Date			F20	10/18/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001
Sample Interval				0.5 - 1 ft	1 - 2.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DD8	B0DB0	B0DB3	B0DB7	B0DB4
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	2700 J	3700 U	14 J	1200 J	2500 J
Acenaphthylene			4200000	310 J	3700 U	28 J	440 J	640 J
Acetophenone				5700 U	3700 U	360 U	3900 U	7700 U
Anthracene	100000		12000000	4900 J	100 J	62 J	3100 J	9100
Atrazine				5700 U	3700 U	360 U	3900 U	7700 U
Benzaldehyde				5700 UJ	3700 U	360 U	260 J	140 J
Benzo(a)anthracene	500000	4000	2000	13000 (BC)	600 J	260 J	7600 (BC)	19000 (BC)
Benzo(a)pyrene	100000	660	8000	13000 (BC)	670 J (B)	360 J	8000 (BC)	20000 (BC)
Benzo(b)fluoranthene	50000	4000	5000	19000 (BC)	830 J	530	10000 (BC)	25000 (BC)
Benzo(g,h,i)perylene			4200000	7200	3700 U	170 J	4700	9000
Benzo(k)fluoranthene	500000	4000	49000	7900 (B)	410 J	280 J	4100 (B)	11000 (B)
Biphenyl				180 J	3700 U	360 U	560 J	600 J
Bromophenyl-4 Phenyl Ether				5700 U	3700 U	360 U	3900 U	7700 U
Butylbenzyl phthalate	100000		930000	290 J	3700 U	360 U	220 J	7700 U
Caprolactam				5700 U	3700 U	360 U	3900 U	7700 U
Carbazole			600	2400 J (C)	3700 U	28 J	1500 J (C)	2600 J (C)
Chloroaniline-4			700	5700 U	3700 U	360 U	3900 U	7700 U
Chloronaphthalene-2				5700 U	3700 U	360 U	3900 U	7700 U
Chlorophenol-2	10000		4000	5700 U	3700 U	360 U	3900 U	7700 U
Chlorophenyl-4 phenyl ether				5700 U	3700 U	360 U	3900 U	7700 U
Chrysene	500000	40000	160000	14000	660 J	350 J	9700	20000
Cresol-4,6-dinitro-ortho				14000 U	9300 U	900 U	9800 UJ	19000 U
Cresol-o			15000	5700 U	3700 U	360 U	3900 U	7700 U
Cresol-p				5700 U	3700 U	360 U	340 J	7700 U
Cresol-parachloro-meta	100000		4000	5700 U	3700 U	360 U	3900 U	7700 U
Dibenzo(a,h)anthracene	100000	660	2000	2200 J (BC)	130 J	90 J	2300 J (BC)	3300 J (BC)
Dibenzofuran				1500 J	3700 U	360 U	920 J	1600 J
Dichlorobenzidine-3,3	100000		7	5700 U	3700 U	360 U	3900 UJ	7700 U
Dichlorophenol-2,4	10000		1000	5700 U	3700 U	360 U	3900 U	7700 U

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05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB118-SS	MA-SB120-SS	MA-SB122-SS	MA-SB124-SS	MA-SB124-SS-D
Sample Date			F20	10/18/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001
Sample Interval				0.5 - 1 ft	1 - 2.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DD8	B0DB0	B0DB3	B0DB7	B0DB4
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	5700 U	3700 U	360 U	3900 U	7700 U
Dinitrophenol-2,4	10000		300	14000 UJ	9300 U	900 U	9800 UJ	19000 U
Dinitrotoluene-2,4			0.8	5700 U	3700 U	360 U	3900 U	7700 U
Dinitrotoluene-2,6			0.7	5700 U	3700 U	360 U	3900 U	7700 U
Ether, bis(2-chloroethyl)	10000		0.4	5700 UJ	3700 U	360 U	3900 U	7700 U
Ether, bis-chloroisopropyl	10000			5700 UJ	3700 U	360 U	3900 U	7700 U
Fluoranthene	100000	10000000	4300000	32000	880 J	530	15000	35000
Fluorene	100000		560000	2000 J	3700 U	16 J	3900 U	3000 J
Hexachlorobenzene	100000		2000	5700 U	3700 U	360 U	3900 U	7700 U
Hexachlorobutadiene	100000		2000	5700 UJ	3700 U	360 U	3900 U	7700 U
Hexachlorocyclopentadiene	100000		400000	5700 U	3700 U	360 U	3900 UJ	7700 UJ
Hexachloroethane	100000		500	5700 UJ	3700 U	360 U	3900 U	7700 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	9000 (B)	490 J	240 J	5700 (B)	12000 (B)
Isophorone	50000		500	5700 U	3700 U	360 U	3900 U	7700 U
Methane, bis(2-chloroethoxy)				5700 U	3700 U	360 U	3900 U	7700 U
Methylnaphthalene-2				540 J	3700 U	360 U	550 J	670 J
Naphthalene	100000	4200000	84000	5700 U	170 J	89 J	1400 J	3500 J
Nitroaniline-2				14000 UJ	9300 U	900 U	9800 U	19000 U
Nitroaniline-3				14000 U	9300 U	900 U	9800 U	19000 U
Nitroaniline-4				14000 U	9300 U	900 U	9800 U	19000 UJ
Nitrobenzene	10000		100	5700 U	3700 U	360 U	3900 U	7700 U
Nitrophenol-2				5700 U	3700 U	360 U	3900 U	7700 U
Nitrophenol-4				14000 UJ	9300 U	900 U	9800 U	19000 U
Nitroso-di-n-propyl-amine-N	10000		0.05	5700 U	3700 U	360 U	3900 UJ	7700 UJ
Nitrosodiphenylamine-n	100000		1000	5700 U	3700 U	360 U	3900 U	7700 U
PCP (Pentachlorophenol)	100000		30	14000 U	9300 U	900 U	9800 U	19000 UJ
Phenanthrene			4200000	23000	520 J	240 J	14000	28000
Phenol	50000		100000	160 J	3700 U	360 U	3900 U	7700 U
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		5700 U	3700 U	490 U	3900 U	7700 U

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB118-SS	MA-SB120-SS	MA-SB122-SS	MA-SB124-SS	MA-SB124-SS-D
Sample Date				10/18/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001
Sample Interval				0.5 - 1 ft	1 - 2.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DD8	B0DB0	B0DB3	B0DB7	B0DB4
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	400 J	220 J	38 J	470 J	490 J
Phthalate, di-n-octyl	100000		10000000	5700 U	3700 U	30 J	3900 U	7700 U
Phthalate, diethyl	50000			5700 U	3700 U	360 U	290 J	7700 UJ
Phthalate, dimethyl	50000			5700 U	3700 U	360 U	3900 U	7700 U
Pyrene	100000	10000000	4200000	24000	880 J	380	13000	38000
Trichlorophenol-2,4,5	50000		270000	14000 U	9300 U	900 U	9800 U	19000 U
Trichlorophenol-2,4,6	10000		200	5700 U	3700 U	360 U	3900 U	7700 UJ

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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
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IGWSCC - Impact to Groundwater Soil Cleanup Criteria

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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB13-SS	MA-SB130-SS	MA-SB131-SS	MA-SB14-SS	MA-SB29-SS-1.0
Sample Date			F20	10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DF5	B0DC0	B0DF3	B0D93	B0DX6
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	180 J	1100	350 U	13 J	11000 UJ
Acenaphthylene			4200000	120 J	86 J	350 U	16 J	11000 UJ
Acetophenone				340 U	37 J	350 U	390 U	11000 UJ
Anthracene	100000		12000000	490	1500	350 U	41 J	11000 UJ
Atrazine				340 U	350 U	350 U	390 U	11000 UJ
Benzaldehyde				340 UJ	41 J	350 UJ	31 J	11000 UJ
Benzo(a)anthracene	500000	4000	2000	1800	3700 (C)	28 J	170 J	11000 UJ
Benzo(a)pyrene	100000	660	8000	1600 (B)	3200 (B)	40 J	210 J	11000 UJ
Benzo(b)fluoranthene	50000	4000	5000	2600	4000 (B)	65 J	280 J	11000 UJ
Benzo(g,h,i)perylene			4200000	850	1600	350 U	160 J	11000 UJ
Benzo(k)fluoranthene	500000	4000	49000	800	1900	23 J	170 J	11000 UJ
Biphenyl				16 J	72 J	350 U	390 U	11000 UJ
Bromophenyl-4 Phenyl Ether				340 U	350 U	350 U	390 U	11000 UJ
Butylbenzyl phthalate	100000		930000	340 UJ	110 J	350 UJ	43 J	11000 UJ
Caprolactam				340 U	350 U	350 U	390 U	11000 UJ
Carbazole			600	350	790 (C)	350 U	23 J	11000 UJ
Chloroaniline-4			700	340 U	350 U	350 U	390 U	11000 UJ
Chloronaphthalene-2				340 U	350 U	350 U	390 U	11000 UJ
Chlorophenol-2	10000		4000	340 U	350 U	350 U	390 U	11000 UJ
Chlorophenyl-4 phenyl ether				340 U	350 U	350 U	390 U	11000 UJ
Chrysene	500000	40000	160000	1700	3500	38 J	170 J	11000 UJ
Cresol-4,6-dinitro-ortho				860 U	880 UJ	870 U	990 UJ	28000 UJ
Cresol-o			15000	340 U	47 J	350 U	390 U	11000 UJ
Cresol-p				340 U	43 J	350 U	390 U	11000 UJ
Cresol-parachloro-meta	100000		4000	340 U	350 U	350 U	390 U	11000 UJ
Dibenzo(a,h)anthracene	100000	660	2000	280 J	570	350 U	42 J	11000 UJ
Dibenzofuran				160 J	510	350 U	390 U	11000 UJ
Dichlorobenzidine-3,3	100000		7	340 U	350 UJ	350 U	390 U	11000 UJ
Dichlorophenol-2,4	10000		1000	340 U	350 U	350 U	390 U	11000 UJ

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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB13-SS	MA-SB130-SS	MA-SB131-SS	MA-SB14-SS	MA-SB29-SS-1.0
Sample Date				10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DF5	B0DC0	B0DF3	B0D93	B0DX6
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	340 U	350 U	350 U	390 U	11000 UJ
Dinitrophenol-2,4	10000		300	860 UJ	880 UJ	870 UJ	990 UJ	28000 UJ
Dinitrotoluene-2,4			0.8	340 U	350 U	350 U	390 U	11000 UJ
Dinitrotoluene-2,6			0.7	340 U	350 U	350 U	390 U	11000 UJ
Ether, bis(2-chloroethyl)	10000		0.4	340 UJ	350 U	350 UJ	390 U	11000 UJ
Ether, bis-chloroisopropyl	10000			340 UJ	350 U	350 UJ	390 U	11000 UJ
Fluoranthene	100000	10000000	4300000	4300	6800	43 J	350 J	11000 UJ
Fluorene	100000		560000	200 J	830	350 U	390 U	11000 UJ
Hexachlorobenzene	100000		2000	340 U	350 U	350 U	390 U	11000 UJ
Hexachlorobutadiene	100000		2000	340 UJ	350 U	350 UJ	390 U	11000 UJ
Hexachlorocyclopentadiene	100000		400000	340 U	350 UJ	350 U	390 UJ	11000 UJ
Hexachloroethane	100000		500	340 UJ	350 U	350 UJ	390 U	11000 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	1000	2200	35 J	170 J	11000 UJ
Isophorone	50000		500	340 U	350 U	350 U	390 U	11000 UJ
Methane, bis(2-chloroethoxy)				340 U	350 U	350 U	390 U	11000 UJ
Methylnaphthalene-2				56 J	170 J	350 U	390 U	11000 UJ
Naphthalene	100000	4200000	84000	170 J	470	350 U	17 J	11000 UJ
Nitroaniline-2				860 UJ	880 U	870 UJ	990 U	28000 UJ
Nitroaniline-3				860 U	880 U	870 U	990 U	28000 UJ
Nitroaniline-4				860 U	880 U	870 U	990 U	28000 UJ
Nitrobenzene	10000		100	340 U	350 U	350 U	390 U	11000 UJ
Nitrophenol-2				340 U	350 U	350 U	390 U	11000 UJ
Nitrophenol-4				860 UJ	880 U	870 UJ	990 U	28000 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	340 U	350 UJ	350 U	390 U	11000 UJ
Nitrosodiphenylamine-n	100000		1000	340 U	350 U	350 U	390 U	11000 UJ
PCP (Pentachlorophenol)	100000		30	860 U	880 U	870 U	990 U	28000 UJ
Phenanthrene			4200000	3000	6100	16 J	160 J	11000 UJ
Phenol	50000		100000	16 J	350 U	350 U	390 U	11000 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		340 U	3400	350 U	390 U	11000 UJ

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB13-SS	MA-SB130-SS	MA-SB131-SS	MA-SB14-SS	MA-SB29-SS-1.0
Sample Date				10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DF5	B0DC0	B0DF3	B0D93	B0DX6
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	340 U	150 J	44 J	53 J	11000 UJ
Phthalate, di-n-octyl	100000		10000000	33 J	350 U	350 U	390 U	11000 UJ
Phthalate, diethyl	50000			340 U	12 J	350 U	390 U	11000 UJ
Phthalate, dimethyl	50000			340 U	350 U	350 U	390 U	11000 UJ
Pyrene	100000	10000000	4200000	3300	5500	43 J	280 J	11000 UJ
Trichlorophenol-2,4,5	50000		270000	860 U	880 U	870 U	990 U	28000 UJ
Trichlorophenol-2,4,6	10000		200	340 U	350 U	350 U	390 U	11000 UJ

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-56
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB31-SS	MA-SB42-SS	MA-SB47-SS	MA-SB56-SS	MA-SB56-SS-D
Sample Date			F20	10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DC5	B0DD0	B0DD1	B0DA3	B0DA0
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	1300 J	350 U	400 U	1600 J	140 J
Acenaphthylene			4200000	4100 U	350 U	400 U	310 J	38 J
Acetophenone				2900 J	11 J	57 J	4000 U	420 U
Anthracene	100000		12000000	990 J	350 U	29 J	3200 J	290 J
Atrazine				4100 U	350 U	400 U	4000 U	420 U
Benzaldehyde				4100 U	350 U	74 J	4000 U	420 U
Benzo(a)anthracene	500000	4000	2000	1400 J	350 U	92 J	11000 (BC)	1400
Benzo(a)pyrene	100000	660	8000	1200 J (B)	350 U	90 J	9400 (BC)	1100 (B)
Benzo(b)fluoranthene	50000	4000	5000	1500 J	350 U	130 J	11000 (BC)	1600
Benzo(g,h,i)perylene			4200000	560 J	350 U	400 U	3800 J	450
Benzo(k)fluoranthene	500000	4000	49000	1300 J	350 U	92 J	5400 (B)	420 U
Biphenyl				2000 J	350 U	400 U	110 J	12 J
Bromophenyl-4 Phenyl Ether				4100 U	350 U	400 U	4000 U	420 U
Butylbenzyl phthalate	100000		930000	4100 U	350 U	400 U	4000 U	420 U
Caprolactam				4100 U	350 U	400 U	4000 U	28 J
Carbazole			600	630 J (C)	350 U	12 J	1500 J (C)	93 J
Chloroaniline-4			700	4100 U	350 U	400 U	4000 U	420 U
Chloronaphthalene-2				4100 U	350 U	400 U	4000 U	420 U
Chlorophenol-2	10000		4000	4100 U	350 U	400 U	4000 U	420 U
Chlorophenyl-4 phenyl ether				4100 U	350 U	400 U	4000 U	420 U
Chrysene	500000	40000	160000	2300 J	350 U	140 J	13000	1600
Cresol-4,6-dinitro-ortho				10000 UJ	890 U	1000 U	10000 U	1100 U
Cresol-o			15000	4100 U	350 U	400 U	4000 U	420 U
Cresol-p				4100 U	350 U	400 U	4000 U	420 U
Cresol-parachloro-meta	100000		4000	4100 U	350 U	400 U	4000 U	420 U
Dibenzo(a,h)anthracene	100000	660	2000	150 J	350 U	23 J	2500 J (BC)	270 J
Dibenzofuran				620 J	350 U	400 U	750 J	47 J
Dichlorobenzidine-3,3	100000		7	4100 UJ	350 UJ	400 U	4000 U	420 U
Dichlorophenol-2,4	10000		1000	4100 U	350 U	400 U	4000 U	420 U

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05/20/2004
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-56
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB31-SS	MA-SB42-SS	MA-SB47-SS	MA-SB56-SS	MA-SB56-SS-D
Sample Date				10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DC5	B0DD0	B0DD1	B0DA3	B0DA0
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	4100 U	350 U	400 U	4000 U	420 U
Dinitrophenol-2,4	10000		300	10000 UJ	890 U	1000 U	10000 U	1100 U
Dinitrotoluene-2,4			0.8	4100 U	350 U	400 U	4000 U	420 U
Dinitrotoluene-2,6			0.7	4100 U	350 U	400 U	4000 U	420 U
Ether, bis(2-chloroethyl)	10000		0.4	4100 U	350 U	400 U	4000 U	420 U
Ether, bis-chloroisopropyl	10000			4100 U	350 U	400 U	4000 U	420 U
Fluoranthene	100000	10000000	4300000	3700 J	350 U	150 J	18000	2100
Fluorene	100000		560000	1900 J	350 U	400 U	4000 U	140 J
Hexachlorobenzene	100000		2000	4100 U	350 U	400 U	4000 U	420 U
Hexachlorobutadiene	100000		2000	4100 U	350 U	400 U	4000 U	420 U
Hexachlorocyclopentadiene	100000		400000	4100 UJ	350 U	400 UJ	4000 U	420 U
Hexachloroethane	100000		500	4100 U	350 U	400 U	4000 U	420 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	820 J	350 U	65 J	5200 (B)	570
Isophorone	50000		500	4100 U	350 U	400 U	4000 U	420 U
Methane, bis(2-chloroethoxy)				4100 U	350 U	400 U	4000 U	420 U
Methylnaphthalene-2				7400	350 U	400 U	370 J	55 J
Naphthalene	100000	4200000	84000	4900	350 U	21 J	930 J	380 J
Nitroaniline-2				10000 U	890 U	1000 U	10000 U	1100 U
Nitroaniline-3				10000 U	890 U	1000 U	10000 U	1100 U
Nitroaniline-4				10000 U	890 U	1000 UJ	10000 U	1100 U
Nitrobenzene	10000		100	4100 U	350 U	400 U	4000 U	420 U
Nitrophenol-2				4100 U	350 U	400 U	4000 U	420 U
Nitrophenol-4				10000 U	890 U	1000 U	10000 U	1100 U
Nitroso-di-n-propyl-amine-N	10000		0.05	4100 UJ	350 UJ	400 UJ	4000 U	420 U
Nitrosodiphenylamine-n	100000		1000	4100 U	350 U	400 U	4000 U	420 U
PCP (Pentachlorophenol)	100000		30	1100 J (C)	890 U	1000 UJ	10000 U	1100 U
Phenanthrene			4200000	6700	350 U	120 J	18000	2300
Phenol	50000		100000	4100 U	350 U	400 U	4000 U	420 U
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		35000	350 U	2400	4000 U	420 U

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IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-56
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB31-SS	MA-SB42-SS	MA-SB47-SS	MA-SB56-SS	MA-SB56-SS-D
Sample Date				10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DC5	B0DD0	B0DD1	B0DA3	B0DA0
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	4100 U	350 U	500	180 J	390 J
Phthalate, di-n-octyl	100000		10000000	4100 U	350 U	400 U	4000 U	420 U
Phthalate, diethyl	50000			4100 U	350 U	400 UJ	4000 U	420 U
Phthalate, dimethyl	50000			4100 U	350 U	400 U	4000 U	420 U
Pyrene	100000	10000000	4200000	3500 J	350 U	170 J	17000	2200
Trichlorophenol-2,4,5	50000		270000	10000 U	890 U	1000 U	10000 U	1100 U
Trichlorophenol-2,4,6	10000		200	4100 U	350 U	400 UJ	4000 U	420 U

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-60	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB60-SS	MA-SB62-SS-1	MA-SB66-SS-0.5	MA-SB67-SS-1.0	MA-SB68-SS-1.0
Sample Date				10/16/2001	12/12/2001	12/13/2001	12/12/2001	12/13/2001
Sample Interval				1.5 - 2 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DA4	B0DX1	B0DZ5	B0DX4	B0DY7
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Acenaphthylene			4200000	610 J	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Acetophenone				350 J	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Anthracene	100000		12000000	980 J	240 J	1900 UJ	660 J	410 J
Atrazine				11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Benzaldehyde				490 J	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Benzo(a)anthracene	500000	4000	2000	4500 J (B)	910 J	200 J	2200 J (C)	1500 J
Benzo(a)pyrene	100000	660	8000	5700 J (B)	780 J (B)	200 J	1700 J (B)	1500 J (B)
Benzo(b)fluoranthene	50000	4000	5000	7700 J (B)	720 J	380 J	1500 J	1500 J
Benzo(g,h,i)perylene			4200000	3400 J	370 J	1900 UJ	530 J	790 J
Benzo(k)fluoranthene	500000	4000	49000	4100 J (B)	820 J	370 J	1800 J	1100 J
Biphenyl				11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Bromophenyl-4 Phenyl Ether				11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Butylbenzyl phthalate	100000		930000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Caprolactam				11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Carbazole			600	760 J (C)	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Chloroaniline-4			700	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Chloronaphthalene-2				11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Chlorophenol-2	10000		4000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Chlorophenyl-4 phenyl ether				11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Chrysene	500000	40000	160000	6700 J	1100 J	350 J	2100 J	1600 J
Cresol-4,6-dinitro-ortho				28000 U	4700 UJ	4700 UJ	9100 UJ	9000 UJ
Cresol-o			15000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Cresol-p				11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Cresol-parachloro-meta	100000		4000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Dibenzo(a,h)anthracene	100000	660	2000	1700 J (B)	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Dibenzofuran				11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Dichlorobenzidine-3,3	100000		7	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Dichlorophenol-2,4	10000		1000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-60	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB60-SS	MA-SB62-SS-1	MA-SB66-SS-0.5	MA-SB67-SS-1.0	MA-SB68-SS-1.0
Sample Date			F20	10/16/2001	12/12/2001	12/13/2001	12/12/2001	12/13/2001
Sample Interval				1.5 - 2 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DA4	B0DX1	B0DZ5	B0DX4	B0DY7
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Dinitrophenol-2,4	10000		300	28000 UJ	4700 UJ	4700 UJ	9100 UJ	9000 UJ
Dinitrotoluene-2,4			0.8	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Dinitrotoluene-2,6			0.7	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Ether, bis(2-chloroethyl)	10000		0.4	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Ether, bis-chloroisopropyl	10000			11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Fluoranthene	100000	10000000	4300000	8800 J	1700 J	310 J	3600 J	2700 J
Fluorene	100000		560000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Hexachlorobenzene	100000		2000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Hexachlorobutadiene	100000		2000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Hexachlorocyclopentadiene	100000		400000	11000 UJ	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Hexachloroethane	100000		500	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	4300 J	430 J	1900 UJ	770 J	800 J
Isophorone	50000		500	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Methane, bis(2-chloroethoxy)				11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Methylnaphthalene-2				11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Naphthalene	100000	4200000	84000	18000	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Nitroaniline-2				28000 U	4700 UJ	4700 UJ	9100 UJ	9000 UJ
Nitroaniline-3				28000 U	4700 UJ	4700 UJ	9100 UJ	9000 UJ
Nitroaniline-4				28000 U	4700 UJ	4700 UJ	9100 UJ	9000 UJ
Nitrobenzene	10000		100	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Nitrophenol-2				11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Nitrophenol-4				28000 U	4700 UJ	4700 UJ	9100 UJ	9000 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Nitrosodiphenylamine-n	100000		1000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
PCP (Pentachlorophenol)	100000		30	28000 UJ	4700 UJ	4700 UJ	9100 UJ	9000 UJ
Phenanthrene			4200000	4600 J	1300 J	1900 UJ	2500 J	1800 J
Phenol	50000		100000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		900 J	240 J	1900 UJ	3700 UJ	3600 UJ

J - Reported value estimated in quantity
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(A, B, C) - Exceeds criteria
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05/20/2004
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-60	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB60-SS	MA-SB62-SS-1	MA-SB66-SS-0.5	MA-SB67-SS-1.0	MA-SB68-SS-1.0
Sample Date				10/16/2001	12/12/2001	12/13/2001	12/12/2001	12/13/2001
Sample Interval				1.5 - 2 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DA4	B0DX1	B0DZ5	B0DX4	B0DY7
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Phthalate, di-n-octyl	100000		10000000	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Phthalate, diethyl	50000			11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Phthalate, dimethyl	50000			11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ
Pyrene	100000	10000000	4200000	7200 J	1900 J	260 J	3100 J	2600 J
Trichlorophenol-2,4,5	50000		270000	28000 U	4700 UJ	4700 UJ	9100 UJ	9000 UJ
Trichlorophenol-2,4,6	10000		200	11000 U	1900 UJ	1900 UJ	3700 UJ	3600 UJ

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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-69	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB69-SS-1.0	MA-SB71-SS-0.5	MA-SB72-SS-0.5	MA-SB75-SS-1.0	MA-SB77-SS-1.0
Sample Date				12/12/2001	12/13/2001	12/13/2001	12/12/2001	12/12/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DW7	B0DZ3	B0DY9	B0DW6	B0DX8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	47 J	370 UJ	380 J	3600 UJ	39000 UJ
Acenaphthylene			4200000	59 J	370 UJ	380 J	3600 UJ	39000 UJ
Acetophenone				360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Anthracene	100000		12000000	120 J	370 UJ	1700 J	420 J	39000 UJ
Atrazine				360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Benzaldehyde				360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Benzo(a)anthracene	500000	4000	2000	350 J	44 J	5200 J (BC)	1800 J	39000 UJ
Benzo(a)pyrene	100000	660	8000	340 J	370 UJ	4400 J (B)	1800 J (B)	39000 UJ
Benzo(b)fluoranthene	50000	4000	5000	370 J	47 J	4400 J (B)	1800 J	39000 UJ
Benzo(g,h,i)perylene			4200000	160 J	370 UJ	1400 J	1100 J	39000 UJ
Benzo(k)fluoranthene	500000	4000	49000	350 J	48 J	4400 J (B)	1600 J	39000 UJ
Biphenyl				360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Bromophenyl-4 Phenyl Ether				360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Butylbenzyl phthalate	100000		930000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Caprolactam				360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Carbazole			600	100 J	370 UJ	590 J	3600 UJ	39000 UJ
Chloroaniline-4			700	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Chloronaphthalene-2				360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Chlorophenol-2	10000		4000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Chlorophenyl-4 phenyl ether				360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Chrysene	500000	40000	160000	460 J	63 J	5200 J	2200 J	39000 UJ
Cresol-4,6-dinitro-ortho				900 UJ	940 UJ	9100 UJ	9100 UJ	97000 UJ
Cresol-o			15000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Cresol-p				360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Cresol-parachloro-meta	100000		4000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Dibenzo(a,h)anthracene	100000	660	2000	61 J	370 UJ	550 J	380 J	39000 UJ
Dibenzofuran				78 J	370 UJ	3600 UJ	3600 UJ	39000 UJ
Dichlorobenzidine-3,3	100000		7	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Dichlorophenol-2,4	10000		1000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-69	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB69-SS-1.0	MA-SB71-SS-0.5	MA-SB72-SS-0.5	MA-SB75-SS-1.0	MA-SB77-SS-1.0
Sample Date			F20	12/12/2001	12/13/2001	12/13/2001	12/12/2001	12/12/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DW7	B0DZ3	B0DY9	B0DW6	B0DX8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Dinitrophenol-2,4	10000		300	900 UJ	940 UJ	9100 UJ	9100 UJ	97000 UJ
Dinitrotoluene-2,4			0.8	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Dinitrotoluene-2,6			0.7	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Ether, bis(2-chloroethyl)	10000		0.4	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Ether, bis-chloroisopropyl	10000			360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Fluoranthene	100000	10000000	4300000	840 J	95 J	13000 J	3600 J	39000 UJ
Fluorene	100000		560000	96 J	370 UJ	610 J	3600 UJ	39000 UJ
Hexachlorobenzene	100000		2000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Hexachlorobutadiene	100000		2000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Hexachlorocyclopentadiene	100000		400000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Hexachloroethane	100000		500	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	200 J	370 UJ	1700 J	1100 J	39000 UJ
Isophorone	50000		500	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Methane, bis(2-chloroethoxy)				360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Methylnaphthalene-2				69 J	370 UJ	3600 UJ	3600 UJ	39000 UJ
Naphthalene	100000	4200000	84000	91 J	370 UJ	3600 UJ	3600 UJ	39000 UJ
Nitroaniline-2				900 UJ	940 UJ	9100 UJ	9100 UJ	97000 UJ
Nitroaniline-3				900 UJ	940 UJ	9100 UJ	9100 UJ	97000 UJ
Nitroaniline-4				900 UJ	940 UJ	9100 UJ	9100 UJ	97000 UJ
Nitrobenzene	10000		100	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Nitrophenol-2				360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Nitrophenol-4				900 UJ	940 UJ	9100 UJ	9100 UJ	97000 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Nitrosodiphenylamine-n	100000		1000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
PCP (Pentachlorophenol)	100000		30	900 UJ	940 UJ	9100 UJ	9100 UJ	97000 UJ
Phenanthrene			4200000	820 J	52 J	8200 J	2100 J	39000 UJ
Phenol	50000		100000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		46 J	370 UJ	3600 UJ	3600 UJ	39000 UJ

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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-69	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB69-SS-1.0	MA-SB71-SS-0.5	MA-SB72-SS-0.5	MA-SB75-SS-1.0	MA-SB77-SS-1.0
Sample Date				12/12/2001	12/13/2001	12/13/2001	12/12/2001	12/12/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DW7	B0DZ3	B0DY9	B0DW6	B0DX8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Phthalate, di-n-octyl	100000		10000000	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Phthalate, diethyl	50000			360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Phthalate, dimethyl	50000			360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ
Pyrene	100000	10000000	4200000	750 J	77 J	8800 J	3300 J	39000 UJ
Trichlorophenol-2,4,5	50000		270000	900 UJ	940 UJ	9100 UJ	9100 UJ	97000 UJ
Trichlorophenol-2,4,6	10000		200	360 UJ	370 UJ	3600 UJ	3600 UJ	39000 UJ

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(A, B, C) - Exceeds criteria
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-78	MA-SB-79	MA-SB-81	MA-SB-81	MA-SB-82
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB78-SS-0.5	MA-SB79-SS-0.5	MA-SB81-SS	MA-SB81-SS-D	MA-SB82-SS
Sample Date			F20	12/13/2001	12/13/2001	10/18/2001	10/18/2001	10/19/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DY5	B0DZ1	B0DE1	B0DD9	B0DE8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	750 UJ	3700 UJ	410 U	400 U	380 J
Acenaphthylene			4200000	750 UJ	3700 UJ	13 J	400 U	240 J
Acetophenone				750 UJ	3700 UJ	410 U	400 U	1900 U
Anthracene	100000		12000000	750 UJ	3700 UJ	15 J	13 J	980 J
Atrazine				750 UJ	3700 UJ	410 U	400 U	1900 U
Benzaldehyde				750 UJ	3700 UJ	8 J	400 UJ	1900 UJ
Benzo(a)anthracene	500000	4000	2000	240 J	3700 UJ	92 J	72 J	3400 (C)
Benzo(a)pyrene	100000	660	8000	240 J	3700 UJ	91 J	50 J	3300 (B)
Benzo(b)fluoranthene	50000	4000	5000	270 J	3700 UJ	150 J	94 J	4400 (B)
Benzo(g,h,i)perylene			4200000	100 J	3700 UJ	94 J	400 U	1800 J
Benzo(k)fluoranthene	500000	4000	49000	210 J	3700 UJ	63 J	33 J	1700 J
Biphenyl				750 UJ	3700 UJ	410 U	400 U	1900 U
Bromophenyl-4 Phenyl Ether				750 UJ	3700 UJ	410 U	400 U	1900 U
Butylbenzyl phthalate	100000		930000	750 UJ	3700 UJ	410 UJ	400 UJ	1900 UJ
Caprolactam				750 UJ	3700 UJ	410 UJ	400 UJ	1900 U
Carbazole			600	750 UJ	3700 UJ	410 U	400 U	550 J
Chloroaniline-4			700	750 UJ	3700 UJ	410 U	400 U	1900 U
Chloronaphthalene-2				750 UJ	3700 UJ	410 U	400 U	1900 U
Chlorophenol-2	10000		4000	750 UJ	3700 UJ	410 U	400 U	1900 U
Chlorophenyl-4 phenyl ether				750 UJ	3700 UJ	410 U	400 U	1900 U
Chrysene	500000	40000	160000	270 J	3700 UJ	120 J	80 J	3400
Cresol-4,6-dinitro-ortho				1900 UJ	9200 UJ	1000 U	1000 U	4800 U
Cresol-o			15000	750 UJ	3700 UJ	410 U	400 U	1900 U
Cresol-p				750 UJ	3700 UJ	410 U	400 U	1900 U
Cresol-parachloro-meta	100000		4000	750 UJ	3700 UJ	410 U	400 U	1900 U
Dibenzo(a,h)anthracene	100000	660	2000	750 UJ	3700 UJ	18 J	400 U	560 J
Dibenzofuran				750 UJ	3700 UJ	410 U	400 U	240 J
Dichlorobenzidine-3,3	100000		7	750 UJ	3700 UJ	410 U	400 U	1900 U
Dichlorophenol-2,4	10000		1000	750 UJ	3700 UJ	410 U	400 U	1900 U

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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-78	MA-SB-79	MA-SB-81	MA-SB-81	MA-SB-82
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB78-SS-0.5	MA-SB79-SS-0.5	MA-SB81-SS	MA-SB81-SS-D	MA-SB82-SS
Sample Date				12/13/2001	12/13/2001	10/18/2001	10/18/2001	10/19/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DY5	B0DZ1	B0DE1	B0DD9	B0DE8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	750 UJ	3700 UJ	410 U	400 U	1900 U
Dinitrophenol-2,4	10000		300	1900 UJ	9200 UJ	1000 U	1000 U	4800 UJ
Dinitrotoluene-2,4			0.8	750 UJ	3700 UJ	410 U	400 U	1900 U
Dinitrotoluene-2,6			0.7	750 UJ	3700 UJ	410 U	400 U	1900 U
Ether, bis(2-chloroethyl)	10000		0.4	750 UJ	3700 UJ	410 U	400 UJ	1900 UJ
Ether, bis-chloroisopropyl	10000			750 UJ	3700 UJ	410 UJ	400 UJ	1900 UJ
Fluoranthene	100000	10000000	4300000	410 J	550 J	180 J	150 J	7000
Fluorene	100000		560000	750 UJ	3700 UJ	410 U	400 U	440 J
Hexachlorobenzene	100000		2000	750 UJ	3700 UJ	410 U	400 U	1900 U
Hexachlorobutadiene	100000		2000	750 UJ	3700 UJ	410 U	400 U	1900 UJ
Hexachlorocyclopentadiene	100000		400000	750 UJ	3700 UJ	410 U	400 U	1900 U
Hexachloroethane	100000		500	750 UJ	3700 UJ	410 UJ	400 UJ	1900 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	130 J	3700 UJ	59 J	31 J	2200
Isophorone	50000		500	750 UJ	3700 UJ	410 U	400 U	1900 U
Methane, bis(2-chloroethoxy)				750 UJ	3700 UJ	410 U	400 U	1900 U
Methylnaphthalene-2				750 UJ	3700 UJ	410 U	400 U	130 J
Naphthalene	100000	4200000	84000	750 UJ	3700 UJ	410 U	400 U	1900 U
Nitroaniline-2				1900 UJ	9200 UJ	1000 UJ	1000 UJ	4800 UJ
Nitroaniline-3				1900 UJ	9200 UJ	1000 U	1000 U	4800 U
Nitroaniline-4				1900 UJ	9200 UJ	1000 U	1000 U	4800 U
Nitrobenzene	10000		100	750 UJ	3700 UJ	410 U	400 U	1900 U
Nitrophenol-2				750 UJ	3700 UJ	410 U	400 U	1900 U
Nitrophenol-4				1900 UJ	9200 UJ	1000 UJ	1000 UJ	4800 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	750 UJ	3700 UJ	410 U	400 U	1900 U
Nitrosodiphenylamine-n	100000		1000	750 UJ	3700 UJ	410 U	400 U	1900 U
PCP (Pentachlorophenol)	100000		30	1900 UJ	9200 UJ	1000 U	1000 U	4800 U
Phenanthrene			4200000	200 J	3700 UJ	66 J	85 J	5700
Phenol	50000		100000	750 UJ	3700 UJ	410 U	400 U	1900 U
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		110 J	3700 UJ	410 U	400 U	1900 U

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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-78	MA-SB-79	MA-SB-81	MA-SB-81	MA-SB-82
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB78-SS-0.5	MA-SB79-SS-0.5	MA-SB81-SS	MA-SB81-SS-D	MA-SB82-SS
Sample Date				12/13/2001	12/13/2001	10/18/2001	10/18/2001	10/19/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DY5	B0DZ1	B0DE1	B0DD9	B0DE8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	750 UJ	3700 UJ	410 U	400 U	72 J
Phthalate, di-n-octyl	100000		10000000	750 UJ	3700 UJ	410 U	400 U	1900 U
Phthalate, diethyl	50000			750 UJ	3700 UJ	410 U	400 U	1900 U
Phthalate, dimethyl	50000			750 UJ	3700 UJ	410 U	400 U	1900 U
Pyrene	100000	10000000	4200000	410 J	460 J	150 J	130 J	6800
Trichlorophenol-2,4,5	50000		270000	1900 UJ	9200 UJ	1000 U	1000 U	4800 U
Trichlorophenol-2,4,6	10000		200	750 UJ	3700 UJ	410 U	400 U	1900 U

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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-85	MA-SB-96	MA-SB-97	MA-SB-98	MA-SO-201
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB85-SS-1.0	MA-SB96-SS	MA-SB97-SS	MA-SB98-SS	MA-SO201-SS
Sample Date			F20	12/17/2001	10/22/2001	10/22/2001	10/22/2001	10/17/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft
CLP Sample ID				B0FW1	B0DG5	B0DG3	B0DH2	B0DB8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	5200 J	370 U	400 U	380 U	210 J
Acenaphthylene			4200000	11000 U	370 U	400 U	380 U	120 J
Acetophenone				11000 U	370 U	400 U	380 U	410 U
Anthracene	100000		12000000	7800 J	58 J	400 U	380 U	1700
Atrazine				11000 U	370 U	400 U	380 U	410 U
Benzaldehyde				11000 UJ	370 U	400 U	380 U	410 U
Benzo(a)anthracene	500000	4000	2000	21000 (BC)	390	230 J	61 J	1000
Benzo(a)pyrene	100000	660	8000	17000 (BC)	360 J	190 J	50 J	860 (B)
Benzo(b)fluoranthene	50000	4000	5000	15000 (BC)	450	250 J	82 J	1200
Benzo(g,h,i)perylene			4200000	5500 J	140 J	95 J	380 UJ	570
Benzo(k)fluoranthene	500000	4000	49000	19000 (B)	300 J	180 J	55 J	710
Biphenyl				11000 U	370 U	400 U	380 U	4600 J
Bromophenyl-4 Phenyl Ether				11000 U	370 U	400 U	380 U	410 U
Butylbenzyl phthalate	100000		930000	11000 U	370 U	400 UJ	380 UJ	9200
Caprolactam				11000 U	370 U	400 U	380 U	410 U
Carbazole			600	4100 J (C)	370 UJ	400 UJ	380 UJ	410 U
Chloroaniline-4			700	11000 U	370 U	400 U	380 U	410 U
Chloronaphthalene-2				11000 U	370 U	400 U	380 U	410 U
Chlorophenol-2	10000		4000	11000 U	370 U	400 U	380 U	410 U
Chlorophenyl-4 phenyl ether				11000 U	370 U	400 U	380 U	410 U
Chrysene	500000	40000	160000	21000	400	300 J	120 J	1100
Cresol-4,6-dinitro-ortho				28000 U	930 R	1000 R	940 R	1000 UJ
Cresol-o			15000	11000 U	370 U	400 U	380 U	1000
Cresol-p				11000 U	370 U	400 U	380 U	940
Cresol-parachloro-meta	100000		4000	11000 U	370 U	400 U	380 U	410 U
Dibenzo(a,h)anthracene	100000	660	2000	2400 J (BC)	84 J	400 U	380 U	290 J
Dibenzofuran				2500 J	370 U	400 U	380 U	160 J
Dichlorobenzidine-3,3	100000		7	11000 U	370 R	400 R	380 R	410 UJ
Dichlorophenol-2,4	10000		1000	11000 U	370 U	400 U	380 U	410 U

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Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-85	MA-SB-96	MA-SB-97	MA-SB-98	MA-SO-201
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB85-SS-1.0	MA-SB96-SS	MA-SB97-SS	MA-SB98-SS	MA-SO201-SS
Sample Date				12/17/2001	10/22/2001	10/22/2001	10/22/2001	10/17/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft
CLP Sample ID				B0FW1	B0DG5	B0DG3	B0DH2	B0DB8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	11000 U	370 U	400 U	380 U	410 U
Dinitrophenol-2,4	10000		300	28000 U	930 R	1000 R	940 R	1000 UJ
Dinitrotoluene-2,4			0.8	11000 U	370 U	400 U	380 U	410 U
Dinitrotoluene-2,6			0.7	11000 U	370 U	400 U	380 U	410 U
Ether, bis(2-chloroethyl)	10000		0.4	11000 U	370 U	400 U	380 U	410 U
Ether, bis-chloroisopropyl	10000			11000 U	370 U	400 U	380 U	410 U
Fluoranthene	100000	10000000	4300000	40000	580	330 J	78 J	1400
Fluorene	100000		560000	4700 J	370 U	400 U	380 U	410 U
Hexachlorobenzene	100000		2000	11000 U	370 U	400 U	380 U	410 U
Hexachlorobutadiene	100000		2000	11000 U	370 U	400 U	380 U	410 U
Hexachlorocyclopentadiene	100000		400000	11000 U	370 U	400 U	380 U	410 UJ
Hexachloroethane	100000		500	11000 U	370 U	400 U	380 U	410 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	6400 UJ (B)	240 J	120 J	380 UJ	650
Isophorone	50000		500	11000 U	370 U	400 U	380 U	410 U
Methane, bis(2-chloroethoxy)				11000 U	370 U	400 U	380 U	410 U
Methylnaphthalene-2				11000 U	370 U	400 U	380 U	2900
Naphthalene	100000	4200000	84000	11000 U	370 U	400 U	380 U	34000
Nitroaniline-2				28000 U	930 U	1000 U	940 U	1000 U
Nitroaniline-3				28000 U	930 UJ	1000 UJ	940 UJ	1000 U
Nitroaniline-4				28000 U	930 UJ	1000 UJ	940 UJ	1000 U
Nitrobenzene	10000		100	11000 U	370 U	400 U	380 U	410 U
Nitrophenol-2				11000 U	370 U	400 U	380 U	410 U
Nitrophenol-4				28000 U	930 U	1000 U	940 U	1000 U
Nitroso-di-n-propyl-amine-N	10000		0.05	11000 U	370 U	400 U	380 U	410 UJ
Nitrosodiphenylamine-n	100000		1000	11000 U	370 U	400 U	380 U	1300 (C)
PCP (Pentachlorophenol)	100000		30	28000 U	930 UJ	1000 U	940 U	1000 U
Phenanthrene			4200000	32000	250 J	230 J	92 J	1800
Phenol	50000		100000	11000 U	370 U	400 U	380 U	3200
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		11000 U	100 J	400 UJ	82 J	59000

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-85	MA-SB-96	MA-SB-97	MA-SB-98	MA-SO-201
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB85-SS-1.0	MA-SB96-SS	MA-SB97-SS	MA-SB98-SS	MA-SO201-SS
Sample Date				12/17/2001	10/22/2001	10/22/2001	10/22/2001	10/17/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft
CLP Sample ID				B0FW1	B0DG5	B0DG3	B0DH2	B0DB8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	11000 U	79 J	72 J	110 J	8300
Phthalate, di-n-octyl	100000		10000000	11000 U	370 R	400 UJ	380 UJ	410 U
Phthalate, diethyl	50000			11000 U	370 U	400 U	380 U	5700 J
Phthalate, dimethyl	50000			11000 U	370 U	400 U	380 U	410 U
Pyrene	100000	10000000	4200000	30000	650	410	110 J	1900
Trichlorophenol-2,4,5	50000		270000	28000 U	930 U	1000 U	940 U	1000 U
Trichlorophenol-2,4,6	10000		200	11000 U	370 U	400 U	380 U	410 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-202	MA-SO-203	MA-SO-204	MA-SO-206	MA-SO-207
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO202-SS-1	MA-SO203-SS	MA-SO204-SS-0.5	MA-SO206-SS-1.5	MA-SO207-SS
Sample Date				12/14/2001	10/19/2001	12/17/2001	12/17/2001	10/22/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				B0FT0	B0DF4	B0FW4	B0FT8	B0DH3
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	520 J	16 J	3700 UJ	2000 U	110 J
Acenaphthylene			4200000	3500 UJ	61 J	3700 UJ	2000 U	360 U
Acetophenone				3500 UJ	15 J	3700 UJ	2000 U	360 U
Anthracene	100000		12000000	1200 J	86 J	3700 UJ	2000 U	430
Atrazine				3500 UJ	370 U	3700 UJ	2000 U	360 U
Benzaldehyde				3500 UJ	12 J	3700 UJ	2000 U	360 U
Benzo(a)anthracene	500000	4000	2000	3700 J (C)	900	580 J	760 J	1500
Benzo(a)pyrene	100000	660	8000	3100 J (B)	990 (B)	490 J	650 J	1100 (B)
Benzo(b)fluoranthene	50000	4000	5000	2300 J	1700	3700 UJ	700 J	1100
Benzo(g,h,i)perylene			4200000	920 J	470	3700 UJ	400 J	420 J
Benzo(k)fluoranthene	500000	4000	49000	3800 J	570	560 J	550 J	990
Biphenyl				3500 UJ	370 U	3700 UJ	2000 U	360 U
Bromophenyl-4 Phenyl Ether				3500 UJ	370 U	3700 UJ	2000 U	360 U
Butylbenzyl phthalate	100000		930000	3500 UJ	370 UJ	3700 UJ	2000 U	360 UJ
Caprolactam				3500 UJ	370 U	3700 UJ	2000 U	360 U
Carbazole			600	750 J (C)	21 J	3700 UJ	2000 U	130 J
Chloroaniline-4			700	3500 UJ	370 U	3700 UJ	2000 U	360 U
Chloronaphthalene-2				3500 UJ	370 U	3700 UJ	2000 U	360 U
Chlorophenol-2	10000		4000	3500 UJ	370 U	3700 UJ	2000 U	360 U
Chlorophenyl-4 phenyl ether				3500 UJ	370 U	3700 UJ	2000 U	360 U
Chrysene	500000	40000	160000	4100 J	1100	650 J	1100 J	1500
Cresol-4,6-dinitro-ortho				8700 UJ	930 U	9300 UJ	4900 UJ	910 R
Cresol-o			15000	3500 UJ	22 J	3700 UJ	2000 U	360 U
Cresol-p				3500 UJ	370 U	3700 UJ	2000 U	360 U
Cresol-parachloro-meta	100000		4000	3500 UJ	370 U	3700 UJ	2000 U	360 U
Dibenzo(a,h)anthracene	100000	660	2000	3500 UJ	190 J	3700 UJ	2000 U	200 J
Dibenzofuran				3500 UJ	12 J	3700 UJ	2000 U	56 J
Dichlorobenzidine-3,3	100000		7	3500 UJ	370 U	3700 UJ	2000 U	360 R
Dichlorophenol-2,4	10000		1000	3500 UJ	370 U	3700 UJ	2000 U	360 U

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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-202	MA-SO-203	MA-SO-204	MA-SO-206	MA-SO-207
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO202-SS-1	MA-SO203-SS	MA-SO204-SS-0.5	MA-SO206-SS-1.5	MA-SO207-SS
Sample Date				12/14/2001	10/19/2001	12/17/2001	12/17/2001	10/22/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				B0FT0	B0DF4	B0FW4	B0FT8	B0DH3
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	3500 UJ	370 U	3700 UJ	2000 U	360 U
Dinitrophenol-2,4	10000		300	8700 UJ	930 UJ	9300 UJ	4900 U	910 R
Dinitrotoluene-2,4			0.8	3500 UJ	370 U	3700 UJ	2000 U	360 U
Dinitrotoluene-2,6			0.7	3500 UJ	370 U	3700 UJ	2000 U	360 U
Ether, bis(2-chloroethyl)	10000		0.4	3500 UJ	370 UJ	3700 UJ	2000 U	360 U
Ether, bis-chloroisopropyl	10000			3500 UJ	370 UJ	3700 UJ	2000 UJ	360 U
Fluoranthene	100000	10000000	4300000	8700 J	1200	1300 J	1600 J	2500
Fluorene	100000		560000	3500 UJ	370 U	3700 UJ	2000 U	97 J
Hexachlorobenzene	100000		2000	3500 UJ	370 U	3700 UJ	2000 U	360 U
Hexachlorobutadiene	100000		2000	3500 UJ	370 UJ	3700 UJ	2000 U	360 U
Hexachlorocyclopentadiene	100000		400000	3500 UJ	370 U	3700 UJ	2000 U	360 U
Hexachloroethane	100000		500	3500 UJ	370 UJ	3700 UJ	2000 U	360 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	1100 J	640	3700 UJ	360 J	610 J
Isophorone	50000		500	3500 UJ	370 U	3700 UJ	2000 U	360 U
Methane, bis(2-chloroethoxy)				3500 UJ	370 U	3700 UJ	2000 U	360 U
Methylnaphthalene-2				3500 UJ	22 J	3700 UJ	2000 U	360 U
Naphthalene	100000	4200000	84000	3500 UJ	370 U	3700 UJ	2000 U	100 J
Nitroaniline-2				8700 UJ	930 UJ	9300 UJ	4900 U	910 U
Nitroaniline-3				8700 UJ	930 U	9300 UJ	4900 U	910 UJ
Nitroaniline-4				8700 UJ	930 U	9300 UJ	4900 U	910 UJ
Nitrobenzene	10000		100	3500 UJ	370 U	3700 UJ	2000 U	360 U
Nitrophenol-2				3500 UJ	370 U	3700 UJ	2000 U	360 U
Nitrophenol-4				8700 UJ	930 UJ	9300 UJ	4900 U	910 U
Nitroso-di-n-propyl-amine-N	10000		0.05	3500 UJ	370 U	3700 UJ	2000 U	360 U
Nitrosodiphenylamine-n	100000		1000	3500 UJ	370 U	3700 UJ	2000 U	360 U
PCP (Pentachlorophenol)	100000		30	8700 UJ	930 U	9300 UJ	4900 U	910 U
Phenanthrene			4200000	6600 J	400	800 J	1500 J	2000
Phenol	50000		100000	3500 UJ	370 U	3700 UJ	2000 U	360 U
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		3500 UJ	430 U	3700 UJ	2000 U	47 J

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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-202	MA-SO-203	MA-SO-204	MA-SO-206	MA-SO-207
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO202-SS-1	MA-SO203-SS	MA-SO204-SS-0.5	MA-SO206-SS-1.5	MA-SO207-SS
Sample Date				12/14/2001	10/19/2001	12/17/2001	12/17/2001	10/22/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				B0FT0	B0DF4	B0FW4	B0FT8	B0DH3
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	3500 UJ	370 U	3700 UJ	2000 U	73 J
Phthalate, di-n-octyl	100000		10000000	3500 UJ	370 U	3700 UJ	2000 U	360 UJ
Phthalate, diethyl	50000			3500 UJ	370 U	3700 UJ	2000 U	360 U
Phthalate, dimethyl	50000			3500 UJ	370 U	3700 UJ	2000 U	360 U
Pyrene	100000	10000000	4200000	5200 J	1500	1100 J	1700 J	2900
Trichlorophenol-2,4,5	50000		270000	8700 UJ	930 U	9300 UJ	4900 U	910 U
Trichlorophenol-2,4,6	10000		200	3500 UJ	370 U	3700 UJ	2000 U	360 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-208	MA-SO-209	MA-SO-210	MA-SO-211	MA-SO-212
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SO208-SS	MA-SO209-SS	MA-SO210-SS-0.5	MA-SO211-SS-1.0	MA-SO212-SS-1.0
Sample Date			F20	10/22/2001	10/22/2001	12/14/2001	12/14/2001	12/14/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DH6	B0DH8	B0FW3	B0FT2	B0FT4
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	260 J	380 U	570 J	3800 UJ	1900 UJ
Acenaphthylene			4200000	71 J	380 U	1800 UJ	3800 UJ	1900 UJ
Acetophenone				380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Anthracene	100000		12000000	740	380 U	710 J	3800 UJ	260 J
Atrazine				380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Benzaldehyde				380 U	89 J	1800 UJ	3800 UJ	1900 UJ
Benzo(a)anthracene	500000	4000	2000	1900	100 J	1800 J	460 J	970 J
Benzo(a)pyrene	100000	660	8000	1300 (B)	79 J	1600 J (B)	3800 UJ	900 J (B)
Benzo(b)fluoranthene	50000	4000	5000	2000	110 J	1900 J	3800 UJ	980 J
Benzo(g,h,i)perylene			4200000	510 J	380 UJ	930 J	3800 UJ	290 J
Benzo(k)fluoranthene	500000	4000	49000	1000	92 J	1300 J	3800 UJ	990 J
Biphenyl				380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Bromophenyl-4 Phenyl Ether				380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Butylbenzyl phthalate	100000		930000	380 U	380 UJ	1800 UJ	3800 UJ	1900 UJ
Caprolactam				380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Carbazole			600	260 J	380 UJ	450 J	3800 UJ	1900 UJ
Chloroaniline-4			700	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Chloronaphthalene-2				380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Chlorophenol-2	10000		4000	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Chlorophenyl-4 phenyl ether				380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Chrysene	500000	40000	160000	1700	170 J	1900 J	590 J	1100 J
Cresol-4,6-dinitro-ortho				940 R	970 R	4500 UJ	9600 UJ	4800 UJ
Cresol-o			15000	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Cresol-p				380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Cresol-parachloro-meta	100000		4000	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Dibenzo(a,h)anthracene	100000	660	2000	290 J	380 U	360 J	3800 UJ	1900 UJ
Dibenzofuran				270 J	380 U	210 J	3800 UJ	1900 UJ
Dichlorobenzidine-3,3	100000		7	380 R	380 R	1800 UJ	3800 UJ	1900 UJ
Dichlorophenol-2,4	10000		1000	380 U	380 U	1800 UJ	3800 UJ	1900 UJ

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

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Station ID	(A)	(B)	(C)	MA-SO-208	MA-SO-209	MA-SO-210	MA-SO-211	MA-SO-212
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO208-SS	MA-SO209-SS	MA-SO210-SS-0.5	MA-SO211-SS-1.0	MA-SO212-SS-1.0
Sample Date				10/22/2001	10/22/2001	12/14/2001	12/14/2001	12/14/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DH6	B0DH8	B0FW3	B0FT2	B0FT4
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Dinitrophenol-2,4	10000		300	940 R	970 R	4500 UJ	9600 UJ	4800 UJ
Dinitrotoluene-2,4			0.8	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Dinitrotoluene-2,6			0.7	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Ether, bis(2-chloroethyl)	10000		0.4	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Ether, bis-chloroisopropyl	10000			380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Fluoranthene	100000	10000000	4300000	3100	190 J	3800 J	820 J	1900 J
Fluorene	100000		560000	360 J	380 U	320 J	3800 UJ	1900 UJ
Hexachlorobenzene	100000		2000	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Hexachlorobutadiene	100000		2000	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Hexachlorocyclopentadiene	100000		400000	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Hexachloroethane	100000		500	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	860 J	54 J	1000 J	3800 UJ	320 J
Isophorone	50000		500	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Methane, bis(2-chloroethoxy)				380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Methylnaphthalene-2				110 J	380 U	1800 UJ	3800 UJ	1900 UJ
Naphthalene	100000	4200000	84000	130 J	380 U	1800 UJ	3800 UJ	1900 UJ
Nitroaniline-2				940 U	970 U	4500 UJ	9600 UJ	4800 UJ
Nitroaniline-3				940 UJ	970 UJ	4500 UJ	9600 UJ	4800 UJ
Nitroaniline-4				940 UJ	970 UJ	4500 UJ	9600 UJ	4800 UJ
Nitrobenzene	10000		100	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Nitrophenol-2				380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Nitrophenol-4				940 U	970 U	4500 UJ	9600 UJ	4800 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Nitrosodiphenylamine-n	100000		1000	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
PCP (Pentachlorophenol)	100000		30	940 UJ	970 U	4500 UJ	9600 UJ	4800 UJ
Phenanthrene			4200000	3400	210 J	3100 J	590 J	1400 J
Phenol	50000		100000	380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		140 J	380 UJ	1800 UJ	3800 UJ	1100 J

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-208	MA-SO-209	MA-SO-210	MA-SO-211	MA-SO-212
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO208-SS	MA-SO209-SS	MA-SO210-SS-0.5	MA-SO211-SS-1.0	MA-SO212-SS-1.0
Sample Date				10/22/2001	10/22/2001	12/14/2001	12/14/2001	12/14/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DH6	B0DH8	B0FW3	B0FT2	B0FT4
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	110 J	380 U	1800 UJ	3800 UJ	1900 UJ
Phthalate, di-n-octyl	100000		10000000	380 R	380 UJ	1800 UJ	3800 UJ	1900 UJ
Phthalate, diethyl	50000			380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Phthalate, dimethyl	50000			380 U	380 U	1800 UJ	3800 UJ	1900 UJ
Pyrene	100000	10000000	4200000	3900	230 J	3100 J	710 J	1700 J
Trichlorophenol-2,4,5	50000		270000	940 U	970 U	4500 UJ	9600 UJ	4800 UJ
Trichlorophenol-2,4,6	10000		200	380 U	380 U	1800 UJ	3800 UJ	1900 UJ

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-212	MA-SO-213	MA-SO-214	MA-SO-301	MA-SO-301
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SO212-SS-1.0D	MA-SO213-SS-1.0	MA-SO214-SS	MA-SO301-SS-1.0	MA-SO301-SS-1.0D
Sample Date			F20	12/14/2001	12/14/2001	10/18/2001	12/13/2001	12/13/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0FT7	B0FT5	B0DD2	B0DY2	B0DY3
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	2000 UJ	1900 UJ	340 J	120000 UJ	34000 J
Acenaphthylene			4200000	2000 UJ	1900 UJ	1100 J	120000 UJ	120000 UJ
Acetophenone				2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Anthracene	100000		12000000	360 J	1900 UJ	1900 J	22000 J	65000 J
Atrazine				2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Benzaldehyde				2000 UJ	1900 UJ	74 J	120000 UJ	120000 UJ
Benzo(a)anthracene	500000	4000	2000	1600 J	1200 J	6900 (BC)	50000 J (BC)	130000 J (BC)
Benzo(a)pyrene	100000	660	8000	1500 J (B)	870 J (B)	7300 (B)	39000 J (BC)	97000 J (BC)
Benzo(b)fluoranthene	50000	4000	5000	1500 J	870 J	10000 (BC)	37000 J (BC)	97000 J (ABC)
Benzo(g,h,i)perylene			4200000	370 J	210 J	2900	13000 J	34000 J
Benzo(k)fluoranthene	500000	4000	49000	1600 J	990 J	4200 (B)	45000 J (B)	110000 J (BC)
Biphenyl				2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Bromophenyl-4 Phenyl Ether				2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Butylbenzyl phthalate	100000		930000	290 J	1900 UJ	2100 U	120000 UJ	120000 UJ
Caprolactam				2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Carbazole			600	2000 UJ	1900 UJ	810 J (C)	14000 J (C)	43000 J (C)
Chloroaniline-4			700	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Chloronaphthalene-2				2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Chlorophenol-2	10000		4000	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Chlorophenyl-4 phenyl ether				2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Chrysene	500000	40000	160000	1700 J	1200 J	7400	51000 J (B)	130000 J (B)
Cresol-4,6-dinitro-ortho				4900 UJ	4800 UJ	5300 U	300000 UJ	290000 UJ
Cresol-o			15000	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Cresol-p				2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Cresol-parachloro-meta	100000		4000	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Dibenzo(a,h)anthracene	100000	660	2000	2000 UJ	1900 UJ	1400 J (B)	120000 UJ	120000 UJ
Dibenzofuran				2000 UJ	1900 UJ	300 J	120000 UJ	27000 J
Dichlorobenzidine-3,3	100000		7	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Dichlorophenol-2,4	10000		1000	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-212	MA-SO-213	MA-SO-214	MA-SO-301	MA-SO-301
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SO212-SS-1.0D	MA-SO213-SS-1.0	MA-SO214-SS	MA-SO301-SS-1.0	MA-SO301-SS-1.0D
Sample Date			F20	12/14/2001	12/14/2001	10/18/2001	12/13/2001	12/13/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0FT7	B0FT5	B0DD2	B0DY2	B0DY3
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Dinitrophenol-2,4	10000		300	4900 UJ	4800 UJ	5300 U	300000 UJ	290000 UJ
Dinitrotoluene-2,4			0.8	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Dinitrotoluene-2,6			0.7	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Ether, bis(2-chloroethyl)	10000		0.4	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Ether, bis-chloroisopropyl	10000			2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Fluoranthene	100000	10000000	4300000	3000 J	2000 J	11000	120000 J (A)	330000 J (A)
Fluorene	100000		560000	2000 UJ	1900 UJ	590 J	13000 J	42000 J
Hexachlorobenzene	100000		2000	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Hexachlorobutadiene	100000		2000	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Hexachlorocyclopentadiene	100000		400000	2000 UJ	1900 UJ	2100 UJ	120000 UJ	120000 UJ
Hexachloroethane	100000		500	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	440 J	260 J	4100 (B)	15000 J (B,C)	40000 J (B,C)
Isophorone	50000		500	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Methane, bis(2-chloroethoxy)				2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Methylnaphthalene-2				2000 UJ	1900 UJ	130 J	120000 UJ	120000 UJ
Naphthalene	100000	4200000	84000	2000 UJ	1900 UJ	270 J	120000 UJ	120000 UJ
Nitroaniline-2				4900 UJ	4800 UJ	5300 U	300000 UJ	290000 UJ
Nitroaniline-3				4900 UJ	4800 UJ	5300 U	300000 UJ	290000 UJ
Nitroaniline-4				4900 UJ	4800 UJ	5300 UJ	300000 UJ	290000 UJ
Nitrobenzene	10000		100	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Nitrophenol-2				2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Nitrophenol-4				4900 UJ	4800 UJ	5300 U	300000 UJ	290000 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	2000 UJ	1900 UJ	2100 UJ	120000 UJ	120000 UJ
Nitrosodiphenylamine-n	100000		1000	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
PCP (Pentachlorophenol)	100000		30	4900 UJ	4800 UJ	5300 UJ	300000 UJ	290000 UJ
Phenanthrene			4200000	1900 J	780 J	7700	110000 J	340000 J
Phenol	50000		100000	2000 UJ	1900 UJ	99 J	120000 UJ	120000 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ

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05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanu
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-212	MA-SO-213	MA-SO-214	MA-SO-301	MA-SO-301
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO212-SS-1.0D	MA-SO213-SS-1.0	MA-SO214-SS	MA-SO301-SS-1.0	MA-SO301-SS-1.0D
Sample Date				12/14/2001	12/14/2001	10/18/2001	12/13/2001	12/13/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0FT7	B0FT5	B0DD2	B0DY2	B0DY3
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	2000 UJ	1900 UJ	78 J	120000 UJ	120000 UJ
Phthalate, di-n-octyl	100000		10000000	2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Phthalate, diethyl	50000			2000 UJ	1900 UJ	2100 UJ	120000 UJ	120000 UJ
Phthalate, dimethyl	50000			2000 UJ	1900 UJ	2100 U	120000 UJ	120000 UJ
Pyrene	100000	10000000	4200000	2700 J	1900 J	11000	82000 J	220000 J (A)
Trichlorophenol-2,4,5	50000		270000	4900 UJ	4800 UJ	5300 U	300000 UJ	290000 UJ
Trichlorophenol-2,4,6	10000		200	2000 UJ	1900 UJ	2100 UJ	120000 UJ	120000 UJ

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
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Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-401	MA-SO-402
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SO302-SS-1.0	MA-SO303-SS-1.0	MA-SO401-SS-1.0	MA-SO401-SS-1.0D	MA-SO402-SS-1.0
Sample Date			F20	12/12/2001	12/13/2001	12/17/2001	12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DW9	B0DY0	B0FX7	B0FW8	B0FX6
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	1900 UJ	1100 J	11000 UJ	1300 J	12000 UJ
Acenaphthylene			4200000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Acetophenone				1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Anthracene	100000		12000000	1900 UJ	2500 J	2800 J	3700 J	2900 J
Atrazine				1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Benzaldehyde				1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Benzo(a)anthracene	500000	4000	2000	750 J	6100 J (BC)	5900 J (BC)	8700 J (BC)	6600 J (BC)
Benzo(a)pyrene	100000	660	8000	650 J	5200 J (B)	4700 J (B)	7400 J (B)	5100 J (B)
Benzo(b)fluoranthene	50000	4000	5000	760 J	5500 J (BC)	3700 J	6400 J (BC)	3800 J
Benzo(g,h,i)perylene			4200000	350 J	1500 J	11000 UJ	11000 UJ	2800 J
Benzo(k)fluoranthene	500000	4000	49000	710 J	3800 J	5500 J (B)	9200 J (B)	5500 J (B)
Biphenyl				1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Bromophenyl-4 Phenyl Ether				1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Butylbenzyl phthalate	100000		930000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Caprolactam				1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Carbazole			600	240 J	1000 J (C)	1200 J (C)	1600 J (C)	12000 UJ
Chloroaniline-4			700	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Chloronaphthalene-2				1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Chlorophenol-2	10000		4000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Chlorophenyl-4 phenyl ether				1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Chrysene	500000	40000	160000	960 J	6300 J	6000 J	8900 J	7000 J
Cresol-4,6-dinitro-ortho				4700 UJ	9400 UJ	27000 UJ	28000 UJ	29000 UJ
Cresol-o			15000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Cresol-p				1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Cresol-parachloro-meta	100000		4000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Dibenzo(a,h)anthracene	100000	660	2000	1900 UJ	800 J (B)	11000 UJ	11000 UJ	12000 UJ
Dibenzofuran				1900 UJ	800 J	11000 UJ	1300 J	12000 UJ
Dichlorobenzidine-3,3	100000		7	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Dichlorophenol-2,4	10000		1000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-401	MA-SO-402
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SO302-SS-1.0	MA-SO303-SS-1.0	MA-SO401-SS-1.0	MA-SO401-SS-1.0D	MA-SO402-SS-1.0
Sample Date			F20	12/12/2001	12/13/2001	12/17/2001	12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DW9	B0DY0	B0FX7	B0FW8	B0FX6
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Dinitrophenol-2,4	10000		300	4700 UJ	9400 UJ	27000 UJ	28000 UJ	29000 UJ
Dinitrotoluene-2,4			0.8	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Dinitrotoluene-2,6			0.7	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Ether, bis(2-chloroethyl)	10000		0.4	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Ether, bis-chloroisopropyl	10000			1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Fluoranthene	100000	10000000	4300000	2100 J	11000 J	10000 J	15000 J	13000 J
Fluorene	100000		560000	1900 UJ	1300 J	1100 J	1500 J	12000 UJ
Hexachlorobenzene	100000		2000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Hexachlorobutadiene	100000		2000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Hexachlorocyclopentadiene	100000		400000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Hexachloroethane	100000		500	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	370 J	2100 J	11000 UJ	11000 UJ	2900 J
Isophorone	50000		500	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Methane, bis(2-chloroethoxy)				1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Methylnaphthalene-2				1900 UJ	410 J	11000 UJ	11000 UJ	12000 UJ
Naphthalene	100000	4200000	84000	1900 UJ	650 J	1400 J	2200 J	5900 J
Nitroaniline-2				4700 UJ	9400 UJ	27000 UJ	28000 UJ	29000 UJ
Nitroaniline-3				4700 UJ	9400 UJ	27000 UJ	28000 UJ	29000 UJ
Nitroaniline-4				4700 UJ	9400 UJ	27000 UJ	28000 UJ	29000 UJ
Nitrobenzene	10000		100	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Nitrophenol-2				1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Nitrophenol-4				4700 UJ	9400 UJ	27000 UJ	28000 UJ	29000 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Nitrosodiphenylamine-n	100000		1000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
PCP (Pentachlorophenol)	100000		30	4700 UJ	9400 UJ	27000 UJ	28000 UJ	29000 UJ
Phenanthrene			4200000	1700 J	9800 J	11000 J	14000 J	12000 J
Phenol	50000		100000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
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EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-401	MA-SO-402
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO302-SS-1.0	MA-SO303-SS-1.0	MA-SO401-SS-1.0	MA-SO401-SS-1.0D	MA-SO402-SS-1.0
Sample Date				12/12/2001	12/13/2001	12/17/2001	12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DW9	B0DY0	B0FX7	B0FW8	B0FX6
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Phthalate, di-n-octyl	100000		10000000	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Phthalate, diethyl	50000			1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Phthalate, dimethyl	50000			1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ
Pyrene	100000	10000000	4200000	1700 J	10000 J	9100 J	13000 J	11000 J
Trichlorophenol-2,4,5	50000		270000	4700 UJ	9400 UJ	27000 UJ	28000 UJ	29000 UJ
Trichlorophenol-2,4,6	10000		200	1900 UJ	3700 UJ	11000 UJ	11000 UJ	12000 UJ

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J - Reported value estimated in quantity
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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-403	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SO403-SS-1.0	MA-SO404-SS-1.0
Sample Date			F20	12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0FX2	B0FX5
Chemical Name					
Semivolatile Organic Compounds (ug/Kg)					
Acenaphthene	100000		570000	560 J	6700 J
Acenaphthylene			4200000	1500 J	12000 U
Acetophenone				3800 U	12000 U
Anthracene	100000		12000000	2500 J	15000
Atrazine				3800 U	12000 U
Benzaldehyde				3800 UJ	12000 UJ
Benzo(a)anthracene	500000	4000	2000	8200 J (BC)	24000 (BC)
Benzo(a)pyrene	100000	660	8000	6300 J (B)	18000 (BC)
Benzo(b)fluoranthene	50000	4000	5000	4700 J (B)	16000 (BC)
Benzo(g,h,i)perylene			4200000	1200 J	5100 J
Benzo(k)fluoranthene	500000	4000	49000	8200 J (B)	18000 (B)
Biphenyl				3800 U	12000 U
Bromophenyl-4 Phenyl Ether				3800 U	12000 U
Butylbenzyl phthalate	100000		930000	3800 U	12000 U
Caprolactam				3800 U	12000 U
Carbazole			600	720 J (C)	7200 J (C)
Chloroaniline-4			700	3800 U	12000 U
Chloronaphthalene-2				3800 U	12000 U
Chlorophenol-2	10000		4000	3800 U	12000 U
Chlorophenyl-4 phenyl ether				3800 U	12000 U
Chrysene	500000	40000	160000	7800	23000
Cresol-4,6-dinitro-ortho				9500 U	29000 U
Cresol-o			15000	3800 U	12000 U
Cresol-p				3800 U	12000 U
Cresol-parachloro-meta	100000		4000	3800 U	12000 U
Dibenzo(a,h)anthracene	100000	660	2000	670 J (B)	2000 J (BC)
Dibenzofuran				500 J	5300 J
Dichlorobenzidine-3,3	100000		7	3800 U	12000 U
Dichlorophenol-2,4	10000		1000	3800 U	12000 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
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05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-403	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO403-SS-1.0	MA-SO404-SS-1.0
Sample Date				12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0FX2	B0FX5
Chemical Name					
Semivolatile Organic Compounds (ug/Kg)					
Dimethylphenol-2,4	10000		9000	3800 U	12000 U
Dinitrophenol-2,4	10000		300	9500 U	29000 U
Dinitrotoluene-2,4			0.8	3800 U	12000 U
Dinitrotoluene-2,6			0.7	3800 U	12000 U
Ether, bis(2-chloroethyl)	10000		0.4	3800 U	12000 U
Ether, bis-chloroisopropyl	10000			3800 U	12000 U
Fluoranthene	100000	10000000	4300000	17000	57000
Fluorene	100000		560000	780 J	8000 J
Hexachlorobenzene	100000		2000	3800 U	12000 U
Hexachlorobutadiene	100000		2000	3800 U	12000 U
Hexachlorocyclopentadiene	100000		400000	3800 U	12000 U
Hexachloroethane	100000		500	3800 U	12000 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	1700 J	5700 J (B)
Isophorone	50000		500	3800 U	12000 U
Methane, bis(2-chloroethoxy)				3800 U	12000 U
Methylnaphthalene-2				3800 U	2200 J
Naphthalene	100000	4200000	84000	1700 J	2700 J
Nitroaniline-2				9500 U	29000 U
Nitroaniline-3				9500 U	29000 U
Nitroaniline-4				9500 U	29000 U
Nitrobenzene	10000		100	3800 U	12000 U
Nitrophenol-2				3800 U	12000 U
Nitrophenol-4				9500 U	29000 U
Nitroso-di-n-propyl-amine-N	10000		0.05	3800 U	12000 U
Nitrosodiphenylamine-n	100000		1000	3800 U	12000 U
PCP (Pentachlorophenol)	100000		30	9500 U	29000 U
Phenanthrene			4200000	9200	72000
Phenol	50000		100000	3800 U	12000 U
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		3800 U	12000 U

J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.2
Surface Soil -Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-403	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO403-SS-1.0	MA-SO404-SS-1.0
Sample Date				12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0FX2	B0FX5
Chemical Name					
Semivolatile Organic Compounds (ug/Kg)					
Phthalate, di-n-butyl	100000		2300000	3800 U	12000 U
Phthalate, di-n-octyl	100000		10000000	3800 U	12000 U
Phthalate, diethyl	50000			3800 U	12000 U
Phthalate, dimethyl	50000			3800 U	12000 U
Pyrene	100000	10000000	4200000	8600	48000
Trichlorophenol-2,4,5	50000		270000	9500 U	29000 U
Trichlorophenol-2,4,6	10000		200	3800 U	12000 U

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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-02	MA-SB-04	MA-SB-06	MA-SB-08	MA-SB-09
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB02-SS	MA-SB04-SS	MA-SB06-SS	MA-SB08-SS	MA-SB09-SS
Sample Date				10/18/2001	10/16/2001	10/15/2001	10/16/2001	10/15/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	0.5 - 1 ft
CLP Sample ID				MB0CJ5	MB0CG1	MB0CF2	MB0CF9	MB0CE7
Chemical Name								
Metals (mg/Kg)								
Aluminum				7290	2650	5720	4920	2990
Antimony		340	5	0.84 UJ	0.81 UJ	2.8 BJ	2.9 BJ	0.79 UJ
Arsenic		20	29	25.3 (B)	39.8 (BC)	90.2 (BC)	457 (BC)	11.3
Barium		47000	1600	475	111	717	2440 (C)	4320 (C)
Beryllium			63	0.6 B	0.35 B	0.51 B	0.52 B	0.17 B
Cadmium		100	8	0.51 B	0.38 B	4.8	3.2	1.1
Calcium				23400	865 B	15000	25900	7970
Chromium		20	38	28.3 (B)	18.3	93.2 (BC)	107 (BC)	13
Cobalt				5.2 B	2 B	8.7 B	5.8 B	2.7 B
Copper		600		38.1	6.3	107	65	18.6
Iron				15000	10300	36000	14100	19300
Lead		600		139	8.5	521	410	121
Magnesium				3340 J	710 B	6030	7290	1330
Manganese				213	53.6 J	362 J	237 J	152 J
Mercury		270		0.22	0.06 U	1.5	1.3	1.2
Nickel		2400	130	12.7	3.2 B	22.8	29.8	5.9 B
Potassium				1370 J	841 B	883 B	828 B	359 B
Selenium			5	1.1 U	1 U	1.6	1 U	1 U
Silver		4100	34	0.23 U	0.22 U	1.8 B	0.36 B	1 B
Sodium				1720 J	400 BJ	948 BJ	1100 J	397 BJ
Thallium		2		1.2 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ
Vanadium		7100	6000	24	13.9	24.7	13.5	21.4
Zinc		1500	12000	110	98.8 J	328 J	331 J	153 J

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Exceedences highlighted
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05/20/2004
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Criteria
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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-106	MA-SB-108	MA-SB-108	MA-SB-11	MA-SB-112
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB106-SS	MA-SB108-SS	MA-SB108-SS-D	MA-SB11-SS	MA-SB112-SS
Sample Date				10/22/2001	10/22/2001	10/22/2001	10/15/2001	10/17/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				MB0CL9	MB0CL2	MB0CL4	MB0CF3	MB0CH5
Chemical Name								
Metals (mg/Kg)								
Aluminum				5160	6310	6740	4290	4940
Antimony		340	5	0.98 B	3.3 B	1.9 B	1.8 BJ	0.8 UJ
Arsenic		20	29	23.6 (B)	17.5	19.6	9.5	5.6
Barium		47000	1600	16500 J (C)	20100 J (C)	15400 J (C)	224	90.4
Beryllium			63	0.67 B	0.6 B	0.87 B	0.25 B	0.32 B
Cadmium		100	8	0.98 B	4.5	3.7	1.4	1.1
Calcium				4350	30200	16600	6340	32000
Chromium		20	38	21.4 (B)	22.8 (B)	17.3	26.3 (B)	18.1
Cobalt				7.7 B	10.4 B	9.8 B	3.4 B	3.1 B
Copper		600		50.8	115	52.9	281	27.6
Iron				38100	21900	15900	16600	9370
Lead		600		508	3190 (B)	1110 (B)	286	132
Magnesium				475 BJ	16700 J	2250 J	3010	9100 J
Manganese				137	309	394	744 J	231
Mercury		270		0.59	0.59	0.47	0.58	0.79
Nickel		2400	130	12.8	19.9	15.5	13.1	8 B
Potassium				517 B	795 B	701 B	375 B	968 B
Selenium			5	3.8 J	1.6 J	1.3 J	1 U	1 U
Silver		4100	34	0.21 UJ	0.21 UJ	0.21 UJ	0.7 B	0.22 U
Sodium				181 B	417 B	306 B	586 BJ	748 BJ
Thallium		2		1.6 B	1.1 U	1.7 B	1.1 UJ	1.1 UJ
Vanadium		7100	6000	21.5	21.6	19.6	19.5	17
Zinc		1500	12000	976	1290	1260	238 J	168

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Exceedences highlighted
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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB118-SS	MA-SB120-SS	MA-SB122-SS	MA-SB124-SS	MA-SB124-SS-D
Sample Date				10/18/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001
Sample Interval				0.5 - 1 ft	1 - 2.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				MB0CJ6	MB0CG3	MB0CG5	MB0CH0	MB0CG7
Chemical Name								
Metals (mg/Kg)								
Aluminum				4420	5290	6560	8990	7290
Antimony		340	5	1.7 BJ	1.2 BJ	2.1 BJ	1.7 BJ	1.8 BJ
Arsenic		20	29	32.8 J (BC)	11.9	217 (BC)	301 (BC)	253 (BC)
Barium		47000	1600	3230 (C)	414	2280 (C)	5600 (C)	3140 (C)
Beryllium			63	0.37 B	0.3 B	0.48 B	0.86 B	0.79 B
Cadmium		100	8	1.8	1 B	1.2	4.1	3.8
Calcium				13000	25000	16600	15500	19700
Chromium		20	38	61.4 (BC)	23.2 (B)	205 (BC)	1080 (BC)	1080 (BC)
Cobalt				4.5 B	3.5 B	5.8 B	42	32.2
Copper		600		160	50.1	61.3	446	282
Iron				32300	15100	18500	28100	22500
Lead		600		612 (B)	155	241	1450 (B)	607 (B)
Magnesium				2970	2430	5490	4230 J	4540 J
Manganese				228	156 J	213 J	361	302
Mercury		270		1.5 J	0.42	0.61	1.8	1.6
Nickel		2400	130	17.6	10.4	15.1	43.9	28.1
Potassium				392 B	626 B	987 B	1240 J	1020 B
Selenium			5	1.8	1 U	1.4	1.4	1.1 U
Silver		4100	34	0.5 B	0.22 U	0.95 B	1.3 B	0.43 B
Sodium				817 B	784 BJ	1450 J	1310 J	1200 J
Thallium		2		1.2 UR	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ
Vanadium		7100	6000	22.4	19.2	20.6	27.1	21.1
Zinc		1500	12000	522	213 J	421 J	773	714

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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB13-SS	MA-SB130-SS	MA-SB131-SS	MA-SB14-SS	MA-SB29-SS-1.0
Sample Date				10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				MB0CL0	MB0CH2	MB0CK8	MB0CE9	MB0CZ6
Chemical Name								
Metals (mg/Kg)								
Aluminum				5410	5490	4190	6320	5800
Antimony		340	5	1.1 UJ	7.1 BJ (C)	0.77 UJ	2.3 BJ	0.8 UJ
Arsenic		20	29	5.6 J	179 (BC)	2.1 J	36.3 (BC)	46.4 (BC)
Barium		47000	1600	160	4010 (C)	30.6 B	5470 (C)	1580 J
Beryllium			63	0.12 B	0.62 B	0.12 B	0.43 B	0.16 B
Cadmium		100	8	0.12 U	7.4	0.083 U	3.3	1.1
Calcium				1180 B	9200	400 B	9350	5070
Chromium		20	38	19	422 (BC)	9.8	73.3 (BC)	18.5 J
Cobalt				0.72 B	11.1	0.69 B	7.9 B	5.8 B
Copper		600		20.1	1400 (B)	6.8	92.3	105
Iron				10700	92500	7880	57800	15500
Lead		600		69	1480 (B)	25	380	390
Magnesium				390 B	2770 J	302 B	4300	2870
Manganese				24.8	577	26.4	409 J	192 J
Mercury		270		0.55 J	NA	0.069 BJ	0.5	0.62
Nickel		2400	130	3.4 B	87.2	2 B	21.6	12.1 R
Potassium				133 B	390 B	211 B	709 B	629 B
Selenium			5	1.4 U	2.4	0.99 U	1.1	1 B
Silver		4100	34	0.29 U	0.72 B	0.21 U	12.9	2 J
Sodium				315 B	2690 J	254 B	866 BJ	1060 BJ
Thallium		2		1.5 UR	1.1 UJ	1.1 UR	1.2 UJ	1.1 UJ
Vanadium		7100	6000	20.7	34.9	11.4	21.7	27.3
Zinc		1500	12000	38.4	2270 (B)	13.4	553 J	413 R

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05/20/2004
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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-56
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB31-SS	MA-SB42-SS	MA-SB47-SS	MA-SB56-SS	MA-SB56-SS-D
Sample Date				10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				MB0CH6	MB0CJ0	MB0CJ1	MB0CF7	MB0CF4
Chemical Name								
Metals (mg/Kg)								
Aluminum				6430	3230	8410	3710	13300
Antimony		340	5	7.6 BJ (C)	0.81 UJ	1.9 BJ	5.9 BJ (C)	1.1 BJ
Arsenic		20	29	8.3	1.7 (BC)	64.1 (BC)	74.8 (BC)	53.8 (BC)
Barium		47000	1600	1230	18.5 B	189	15100 (C)	33400 (C)
Beryllium			63	0.55 B	0.3 B	0.61 B	0.48 B	1 B
Cadmium		100	8	1.10 (BC)	0.09 U	31.8 (C)	1.3	1.1 B
Calcium				32100	6210	54300	4000	2650
Chromium		20	38	272 (BC)	16.1	79 (BC)	197 (BC)	87.9 (BC)
Cobalt				28	0.3 B	8.3 B	4.3 B	5.1 B
Copper		600		646 (B)	4 B	78.6	598	453
Iron				77700	11800	21300	17100	31300
Lead		600		853 (B)	8.3	511	502	140
Magnesium				5430 J	1030 BJ	6710 J	1020 B	575 B
Manganese				452	21.3	187	161 J	214 J
Mercury		270		NA	0.06 U	0.31	3.1	0.56
Nickel		2400	130	576 (C)	1.5 B	35.5	11	12.8
Potassium				927 B	367 B	1920 J	379 B	1050 B
Selenium			5	4.3	1 U	1.1 B	2.6	1.7
Silver		4100	34	45.7 (C)	0.22 U	0.9 B	0.35 B	0.33 B
Sodium				3500 J	290 BJ	1850 J	706 BJ	837 BJ
Thallium		2		1.4 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.3 UJ
Vanadium		7100	6000	40.6	29	24.9	20.1	29.1
Zinc		1500	12000	1460	9.9	632	380 J	504 J

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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-60	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB60-SS	MA-SB62-SS-1	MA-SB66-SS-0.5	MA-SB67-SS-1.0	MA-SB68-SS-1.0
Sample Date				10/16/2001	12/12/2001	12/13/2001	12/12/2001	12/13/2001
Sample Interval				1.5 - 2 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				MB0CG0	MB0CZ1	MB0D15	MB0CZ8	MB0D06
Chemical Name								
Metals (mg/Kg)								
Aluminum				3510	4520	4620	4840	9000
Antimony		340	5	3.3 BJ	0.88 J	0.81 BJ	0.78 UJ	0.76 UJ
Arsenic		20	29	766 (BC)	13.1	21.7 J (B)	8.1	3.3
Barium		47000	1600	1260	646 J	3050 (C)	144 J	165 J
Beryllium			63	0.33 B	0.2 B	0.4 B	0.22 B	0.53 B
Cadmium		100	8	4.1	1 B	1.9	0.49 B	0.33 B
Calcium				29900	5380	6320	1220	34100
Chromium		20	38	65.4 (BC)	24 J (B)	75 (BC)	11.7 J	9.8 J
Cobalt				5.1 B	3.4 B	2.7 B	3.8 B	3.2 B
Copper		600		106	63.4	39.1	49.4	11.4
Iron				32100	14200	9820	10800	17400
Lead		600		450	979 (B)	356	132	34.6
Magnesium				16900	1210	1190	1060	829 B
Manganese				242 J	126 J	103 J	112 J	127 J
Mercury		270		1.1	0.53	0.68	0.37	0.08 R
Nickel		2400	130	21.4	9.1 R	10	6.8 R	8.1 B
Potassium				856 B	414 B	646 B	476 B	486 B
Selenium			5	1.1 B	1.1	1 U	1 U	0.98 U
Silver		4100	34	0.37 B	0.38 J	0.21 U	0.21 UJ	0.21 UJ
Sodium				1400 J	675 BJ	582 J	283 BJ	666 BJ
Thallium		2		1.2 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ
Vanadium		7100	6000	27	17.5	28.2	16	14.8
Zinc		1500	12000	974 J	343 R	339	63 R	62.6 R

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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ

Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-69	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB69-SS-1.0	MA-SB71-SS-0.5	MA-SB72-SS-0.5	MA-SB75-SS-1.0	MA-SB77-SS-1.0
Sample Date				12/12/2001	12/13/2001	12/13/2001	12/12/2001	12/12/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				MB0979	MB0D16	MB0D13	MB0981	MB0D00
Chemical Name								
Metals (mg/Kg)								
Aluminum				5010	3250	4280	3980	4400
Antimony		340	5	0.8 UJ	0.78 UJ	2.6 BJ	1.9 J	0.99 J
Arsenic		20	29	6.6	6.3 J	15 J	33.1 (BC)	20.3 (B)
Barium		47000	1600	396 J	44.10 (C)	567	2460 J (C)	333 J
Beryllium			63	0.32 B	0.28 B	0.4 B	0.27 B	0.2 B
Cadmium		100	8	0.64 B	0.32 B	1 B	4.4	0.5 B
Calcium				1840	4350	4010	5010	13400
Chromium		20	38	15.2 J	8.5	20.1 (B)	189 J (BC)	24.9 (B)
Cobalt				4.4 B	1.7 B	3.3 B	6.5 B	6.2 B
Copper		600		36.4	18.7	80.5	90.6	68.1
Iron				11200	12800	16000	14400	16400
Lead		600		140	61.4	758 (B)	872 (B)	236
Magnesium				1430	529 B	732 B	1040 B	3330
Manganese				115 J	47.8 J	488 J	139 J	205 J
Mercury		270		0.39	0.12	0.68	1.5	0.21
Nickel		2400	130	13.6 R	5.1 B	9.6 B	11.8 R	15.8 R
Potassium				619 B	355 B	405 B	663 B	655 B
Selenium			5	1 U	1.2	3.3 U	1.4	1.1 U
Silver		4100	34	0.22 J	0.21 U	0.33 U	0.41 J	0.24 UJ
Sodium				390 BJ	354 J	789 BJ	1470 J	689 BJ
Thallium		2		1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.2 UJ
Vanadium		7100	6000	21.9	14.7	22.6	22.7	28.3
Zinc		1500	12000	104 R	84.4	473	945 R	185 R

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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-78	MA-SB-79	MA-SB-81	MA-SB-81	MA-SB-82
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB78-SS-0.5	MA-SB79-SS-0.5	MA-SB81-SS	MA-SB81-SS-D	MA-SB82-SS
Sample Date				12/13/2001	12/13/2001	10/18/2001	10/18/2001	10/19/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				MB0D09	MB0D10	MB0CJ9	MB0CJ7	MB0CK5
Chemical Name								
Metals (mg/Kg)								
Aluminum				6640	4040	11400	13000	4240
Antimony		340	5	1.1 BJ	0.81 UJ	0.9 UJ	0.91 UJ	0.86 UJ
Arsenic		20	29	8.7 J	4.6 J	24.2 J (B)	24.6 J (B)	18.8 J
Barium		47000	1600	5070 (C)	62.4	30800 (C)	37900 (C)	2030 (C)
Beryllium			63	0.56 B	0.33 B	1.2 B	1.2 J	0.54 B
Cadmium		100	8	2.2	0.09 U	41.8 (C)	24.4 (C)	2.1
Calcium				9980	1700	3490	3700	13200
Chromium		20	38	23.7 (B)	11.4	24.4 (B)	22.2 (B)	30.1 (B)
Cobalt				5.8 B	2.8 B	10.3 B	12.5	5 B
Copper		600		92.5	23.3	74.9	75.8	56
Iron				22000	14100	21900	28500	14100
Lead		600		588	140	541	707 (B)	377
Magnesium				1680	697 B	723 B	739 B	1390
Manganese				232 J	107 J	535	669	90.3
Mercury		270		0.38	0.31	0.7 J	0.76 J	0.43 J
Nickel		2400	130	10.6	7.7 B	14.5	14.9	16.4
Potassium				791 B	424 B	1000 B	1130 B	792 B
Selenium			5	1.1 U	1.1	1.5	1.5	1.6
Silver		4100	34	0.23 U	0.22 U	0.24 U	0.25 U	0.23 U
Sodium				1000 BJ	235 BJ	4770 J	4340 J	1020 B
Thallium		2		1.2 UJ	1.1 UJ	1.3 UR	1.3 UR	1.2 UR
Vanadium		7100	6000	22.4	16	31	33.4	33.9
Zinc		1500	12000	550	54.1	6640 (B)	5530 (B)	553

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Exceedences highlighted
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05/20/2004
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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-85	MA-SB-96	MA-SB-97	MA-SB-98	MA-SO-201
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB85-SS-1.0	MA-SB96-SS	MA-SB97-SS	MA-SB98-SS	MA-SO201-SS
Sample Date				12/17/2001	10/22/2001	10/22/2001	10/22/2001	10/17/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft
CLP Sample ID				MB0ES7	MB0CL7	MB0CL5	MB0CM3	MB0CH1
Chemical Name								
Metals (mg/Kg)								
Aluminum				3720 J	4510	5570	3630	8340
Antimony		340	5	3.5 BJ	2.7 B	3.2 B	1.6 B	3.5 BJ
Arsenic		20	29	24 (B)	63 (BC)	18.7	66 (BC)	83 (BC)
Barium		47000	1600	241	13200 J (C)	18200 J (C)	5030 J (C)	16600 (C)
Beryllium			63	0.43 B	0.48 B	0.66 B	0.82 B	0.53 B
Cadmium		100	8	1.5 J	2.9	4.7	0.8 B	5.2
Calcium				18400	4520	31900	15000	23500
Chromium		20	38	25.5 (B)	113 (BC)	23.9 (B)	9.8	444 (BC)
Cobalt				3.5 B	7.5 B	9.3 B	4.9 B	12 B
Copper		600		134	86.3	162	43.7	607 (B)
Iron				22400	18800	20800	13000	103000
Lead		600		559	952 (B)	3310 (B)	419	515
Magnesium				7170	1300 J	16400 J	1920 J	11600 J
Manganese				287 J	177	364	185	667
Mercury		270		0.46 J	0.56	0.61	0.75	0.64
Nickel		2400	130	18.5	16.4	20.4	10.6	102
Potassium				500 B	490 B	721 B	497 B	589 B
Selenium			5	1.5	1.5 J	1.2 J	1.5 J	1.8
Silver		4100	34	0.24 B	0.89 BJ	0.21 UJ	0.21 UJ	0.25 U
Sodium				606 BJ	137 B	260 B	273 B	1350 J
Thallium		2		1.2 UJ	1.1 U	1.1 U	1.1 U	1.3 UJ
Vanadium		7100	6000	30.2	15.9	22.5	13.6	41.4
Zinc		1500	12000	347	721	1320	324	859

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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	(C)	MA-SO-202	MA-SO-203	MA-SO-204	MA-SO-206	MA-SO-207
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO202-SS-1	MA-SO203-SS	MA-SO204-SS-0.5	MA-SO206-SS-1.5	MA-SO207-SS
Sample Date				12/14/2001	10/19/2001	12/17/2001	12/17/2001	10/22/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				MB0D18	MB0CK9	MB0ES5	MB0D19	MB0CM4
Chemical Name								
Metals (mg/Kg)								
Aluminum				2210 J	1900	5190 J	4060 J	3330
Antimony		340	5	3.4 BJ	1.8 BJ	0.81 UJ	2.1 BJ	1.1 B
Arsenic		20	29	7.4	30.6 J (BC)	3.2	15.3	365 (BC)
Barium		47000	1600	888	6980 (C)	80.5	601	9020 J (C)
Beryllium			63	0.22 B	0.37 B	0.4 B	0.46 B	0.43 B
Cadmium		100	8	2.2 J	1 B	0.09 UJ	0.47 BJ	0.27 B
Calcium				3880	2560	45800	4560	3010
Chromium		20	38	4.13 (BC)	8.14 (BC)	12.3	17.2	160 (BC)
Cobalt				2.2 B	3.4 B	2.3 B	4.1 B	4.7 B
Copper		600		159	410	18.8	72.8	13.5
Iron				13800	13100	8350	18100	9700
Lead		600		552	1140 (B)	53.2	461	124
Magnesium				950 B	559 B	11800	715 B	1310 J
Manganese				111 J	76.9	121 J	140 J	61.7
Mercury		270		5.7 J	0.49 J	0.11 J	1.5 J	0.22 J
Nickel		2400	130	7.2 B	30	7.3 B	9.5	6.5 B
Potassium				236 B	305 B	760 B	486 B	330 B
Selenium			5	1	1.6	1.1 U	1.6	0.99 BJ
Silver		4100	34	1.7 B	0.23 U	0.22 U	0.22 U	0.2 UJ
Sodium				771 BJ	595 B	358 BJ	583 BJ	94.9 B
Thallium		2		1.1 UJ	1.2 UR	1.1 UJ	1.2 UJ	1.1 U
Vanadium		7100	6000	8.1 B	47	12.8	17.1	10 B
Zinc		1500	12000	492	252	71.1	263	426

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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	(C)	MA-SO-208	MA-SO-209	MA-SO-210	MA-SO-211	MA-SO-212
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO208-SS	MA-SO209-SS	MA-SO210-SS-0.5	MA-SO211-SS-1.0	MA-SO212-SS-1.0
Sample Date				10/22/2001	10/22/2001	12/14/2001	12/14/2001	12/14/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				MB0CM6	MB0CM8	MB0ER4	MB0ES1	MB0ER7
Chemical Name								
Metals (mg/Kg)								
Aluminum				10000	5220	4550	5930	4600
Antimony		340	5	37.2 (C)	7.6 B (C)	0.82 UJ	1.5 BJ	4.1 BJ
Arsenic		20	29	103 (B)	19.5	5.1 J	17.8 J	27.7 J (B)
Barium		47000	1600	5680 J (C)	19100 J (C)	6680 (C)	16000 (C)	13000 (C)
Beryllium			63	1.1 B	0.54 B	0.3 B	0.4 B	0.38 B
Cadmium		100	8	37 (C)	36.6 (C)	1.7	4.8	17.8 (C)
Calcium				8990	1380	25000	10800	7920
Chromium		20	38	16.2	14.5	18.3	14.5	16.2
Cobalt				14.4	12.2	2.3 B	3.4 B	4.9 B
Copper		600		269	144	21.8	49.9	99.7
Iron				43400	18900	10300	32800	19100
Lead		600		10600 (B)	112000 (B)	198	989 (B)	2140 (B)
Magnesium				3660 J	327 BJ	3020	991 B	1140
Manganese				506	270	134 J	219 J	141 J
Mercury		270		7.7	0.24	1.3	0.39	2.2
Nickel		2400	130	26.2	9.5	7.8 B	8.8 B	9.7
Potassium				2750 J	371 B	558 E	738 B	711 E
Selenium			5	5.9 J (C)	2.7 J	1.1 U	1.6	1.3
Silver		4100	34	2 BJ	0.2 UJ	0.22 U	0.25 U	0.53 B
Sodium				256 B	119 B	891 BJ	1660 J	2280 J
Thallium		2		3.9 (B)	6.4 (B)	1.2 UJ	1.3 UJ	1.2 UJ
Vanadium		7100	6000	25.3	16.1	17.1	18.4	17.1
Zinc		1500	12000	23900 (B)	1880 (B)	573	1200	1880 (B)

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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-212	MA-SO-213	MA-SO-214	MA-SO-301	MA-SO-301
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO212-SS-1.0D	MA-SO213-SS-1.0	MA-SO214-SS	MA-SO301-SS-1.0	MA-SO301-SS-1.0D
Sample Date				12/14/2001	12/14/2001	10/18/2001	12/13/2001	12/13/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				MB0ER9	MB0ES0	MB0CJ2	MB0D04	MB0D05
Chemical Name								
Metals (mg/Kg)								
Aluminum				4990	4390	2460	4360	4420
Antimony		340	5	3.2 BJ	0.84 UJ	2.8 BJ	1.2 J	1.9 J
Arsenic		20	29	2.1 J (B)	7.7 J	14.9	17.5	23 (B)
Barium		47000	1600	13800 (C)	12100 (C)	3660 (C)	3290 J (C)	3360 J (C)
Beryllium			63	0.41 B	0.26 B	0.46 B	0.34 B	0.35 B
Cadmium		100	8	18.3 (C)	0.62 B	2	0.75 B	1.1 B
Calcium				8970	5880	12500	7710	6380
Chromium		20	38	15.1	9.6	53.8 (BC)	31 J (B)	34.7 J (B)
Cobalt				4.3 B	3.5 B	9.2 B	6.8 B	8.3 B
Copper		600		90.7	21	64.2	93.7	160
Iron				15500	12800	12700	19000	27200
Lead		600		1620 (B)	278	497	502	1110 (B)
Magnesium				1210	929 B	2520 J	1630	1650
Manganese				123 J	142 J	65.9	128 J	172 J
Mercury		270		2.4	1.3	0.25	0.86	1.2
Nickel		2400	130	10.8	6.5 B	15.4	16.4 R	23.3 R
Potassium				705 B	421 B	713 B	453 B	453 B
Selenium			5	1.2	1.1 U	1.2	2	2.5
Silver		4100	34	0.49 B	0.23 U	0.25 U	0.24 UJ	0.26 J
Sodium				2040 J	739 BJ	992 BJ	637 BJ	802 BJ
Thallium		2		1.2 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.3 UJ
Vanadium		7100	6000	16.8	11.8	25.6	17.4	19.9
Zinc		1500	12000	1650 (B)	446	453	296 R	405 R

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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-401	MA-SO-402
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO302-SS-1.0	MA-SO303-SS-1.0	MA-SO401-SS-1.0	MA-SO401-SS-1.0D	MA-SO402-SS-1.0
Sample Date				12/12/2001	12/13/2001	12/17/2001	12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				MB0CZ2	MB0D02	MB0ET3	MB0ET4	MB0ET2
Chemical Name								
Metals (mg/Kg)								
Aluminum				6620	3150	3430 J	3280 J	5650 J
Antimony		340	5	1.4 J	1.9 J	1.9 BJ	1.5 BJ	1.1 BJ
Arsenic		20	29	17.7	33.8 (BC)	339 (BC)	321 (BC)	322 (BC)
Barium		47000	1600	1080 J	796	12600 (C)	10900 (C)	7030 (C)
Beryllium			63	0.4 B	0.33 J	0.51 B	0.46 B	0.74 B
Cadmium		100	8	5.1	0.86 B	4.6 J	3.9 J	2.3 J
Calcium				7220	5930	6740	5110	33000
Chromium		20	38	24.5 J (B)	13 J	256 (BC)	225 (BC)	261 (BC)
Cobalt				5.4 B	3.5 B	4.8 B	4.5 B	3.4 B
Copper		600		358	67.5	58.7	57.5	44.5
Iron				27600	16900	14700	13500	12100
Lead		600		1020 (B)	541	512	661 (B)	548
Magnesium				999 B	1410	1120	1170	3120
Manganese				234 J	124 J	104 J	103 J	211 J
Mercury		270		0.76	0.51	0.65 J	0.62 J	0.99 J
Nickel		2400	130	12.4 R	11.3 R	15.5	13.6	10.7
Potassium				646 B	323 B	376 B	354 B	561 B
Selenium			5	2.1	1.5	1.6	1.6	1.2
Silver		4100	34	0.88 J	0.23 UJ	0.22 U	0.22 U	0.24 U
Sodium				1360 J	703 BJ	2320 J	1890 J	1360 J
Thallium		2		1.1 UJ	1.2 UJ	1.2 UJ	1.1 UJ	1.2 UJ
Vanadium		7100	6000	33.6	16.5	19.4	17.3	16.7
Zinc		1500	12000	675 R	354 R	1740 (B)	1670 (B)	900

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Table G.3
Surface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-403	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO403-SS-1.0	MA-SO404-SS-1.0
Sample Date				12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				MB0ET6	MB0ET5
Chemical Name					
Metals (mg/Kg)					
Aluminum				4140 J	5810 J
Antimony		340	5	1.2 BJ	1.6 BJ
Arsenic		20	29	246 (BC)	40.4 (BC)
Barium		47000	1600	4670 (C)	22600 (C)
Beryllium			63	0.41 B	0.54 B
Cadmium		100	8	0.91 BJ	1.6 J
Calcium				23700	16600
Chromium		20	38	326 (BC)	33.8 (B)
Cobalt				5.2 B	6.6 B
Copper		600		52.9	33.4
Iron				16300	27700
Lead		600		526	505
Magnesium				2740	1880
Manganese				154 J	180 J
Mercury		270		1.3 J	0.46 J
Nickel		2400	130	12.4	12
Potassium				511 E	416 B
Selenium			5	1.7	1.4
Silver		4100	34	0.23	0.23 U
Sodium				838 BJ	1050 BJ
Thallium		2		1.2 UJ	1.2 UJ
Vanadium		7100	6000	14.3	16.5
Zinc		1500	12000	507	738

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Table G.4
Surface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-02	MA-SB-04	MA-SB-06	MA-SB-08	MA-SB-09
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB02-SS	MA-SB04-SS	MA-SB06-SS	MA-SB08-SS	MA-SB09-SS
Sample Date				10/18/2001	10/16/2001	10/15/2001	10/16/2001	10/15/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	0.5 - 1 ft
CLP Sample ID				B0DD7	B0DA6	B0D96	B0DA9	B0D91
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	1.9 U	1.9 R	3.6 U	28	1.8 U
BHC, alpha			0.5	1.9 U	1.9 R	3.6 U	19 U	1.8 U
BHC, beta			3	1.9 U	1.9 R	3.6 U	19 U	1.8 U
BHC, delta			9	1.9 U	1.9 R	3.6 U	19 U	1.8 U
BHC, gamma (Lindane)	50000		9	1.9 UJ	1.9 R	3.6 UJ	19 UJ	1.8 UJ
Chlordane - alpha			23000	19 J	18 J	960	1300 JN	58
Chlordane - gamma (technical mixture)			10000	47 J	19 J	1200	1500 J	51
DDD-4,4	50000		16000	3.8 U	3.7 R	6.9 U	37 U	3.6 U
DDE-4,4	50000	9000	54000	68 J	10 J	630	420	260
DDT-4,4	500000	9000	32000	3.8 UJ	3.7 R	98 R	37 UJ	25 R
Dieldrin	50000	180	4	15 J (C)	3.7 R	73 JN (C)	37 U	3.6 U
Endosulfan I (alpha)			18000	5.9 R	1.9 R	14 R	19 U	1.8 U
Endosulfan II (beta)				3.8 U	3.7 R	6.9 U	37 U	4.1 R
Endosulfan Sulfate			1000	76 J	3.7 R	180 JN	37 U	16 J
Endrin	50000		1000	24 JN	3.7 R	190 J	37 U	3.6 U
Endrin Aldehyde			1000	3.8 U	3.7 R	6.9 U	37 U	3.6 U
Endrin ketone			1000	64 J	3.7 R	6.9 U	37 U	3.6 U
Heptachlor	50000	650	23000	1.9 U	1.9 R	260 J	19 U	1.8 U
Heptachlor Epoxide			700	1.9 U	1.9 R	3.6 U	19 U	1.8 U
Methoxychlor	50000		160000	19 U	19 R	1800 J	190 U	18 U
Pcb-araclor 1016				38 U	37 R	69 U	370 U	36 U
Pcb-araclor 1221				76 U	74 R	140 U	740 U	73 U
Pcb-araclor 1232				38 U	37 R	69 U	370 U	36 U
Pcb-araclor 1242				38 U	37 R	69 U	370 U	36 U
Pcb-araclor 1248				38 U	37 R	69 U	370 U	36 U
Pcb-araclor 1254		2000		38 U	290 J	69 U	10000 J (F)	36 U
Pcb-araclor 1260		2000		38 U	170 J	69 U	7200 J (F)	36 U
Toxaphene	50000		31000	190 U	190 R	360 U	1900 U	180 U

J - Reported value estimated in quantity
N -
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U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.4
Surface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-106	MA-SB-108	MA-SB-108	MA-SB-11	MA-SB-112
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB106-SS	MA-SB108-SS	MA-SB108-SS-D	MA-SB11-SS	MA-SB112-SS
Sample Date			F20	10/22/2001	10/22/2001	10/22/2001	10/15/2001	10/17/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				B0DG7	B0DF9	B0DG1	B0D99	B0DC4
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	2 U	2 U	2 U	9.1 U	1.9 U
BHC, alpha			0.5	2 U	2 U	2 U	9.1 U	1.9 U
BHC, beta			3	2 U	2 U	2 U	9.1 U	1.9 U
BHC, delta			9	2 U	2 U	2 U	9.1 U	1.9 U
BHC, gamma (Lindane)	50000		9	2 U	2 U	2 U	9.1 UJ	1.9 UJ
Chlordane - alpha			23000	2 U	5.9	5.1 NJ	34 JN	1.9 U
Chlordane - gamma (technical mixture)			10000	2 U	7 NJ	9.7 J	9.1 U	58 R
DDD-4,4	50000		16000	3.8 U	3.8 U	3.9 U	18 U	3.8 U
DDE-4,4	50000	9000	54000	3.8 U	11 NJ	11 NJ	80	3.8 U
DDT-4,4	500000	9000	32000	4.9 NJ	30 NJ	32 NJ	18 UJ	24 J
Dieldrin	50000	180	4	6.6 J (C)	13 (C)	15 J (C)	24 R	3.8 U
Endosulfan I (alpha)			18000	2 U	2 U	2 U	9.1 U	1.9 U
Endosulfan II (beta)				3.8 U	3.8 U	3.9 U	18 U	3.8 U
Endosulfan Sulfate			1000	3.8 U	3.8 U	3.9 U	18 U	3.8 U
Endrin	50000		1000	3.8 U	3.8 U	3.9 U	18 U	3.8 U
Endrin Aldehyde			1000	7.5 J	14 NJ	3.9 U	18 U	40
Endrin ketone			1000	14 J	19 NJ	36 J	18 U	3.8 U
Heptachlor	50000	650	23000	2 U	2 U	2 U	9.1 U	1.9 U
Heptachlor Epoxide			700	2 U	2.5 NJ	2 U	9.1 U	1.9 U
Methoxychlor	50000		160000	20 UJ	20 UJ	20 UJ	91 U	310 J
Pcb-araclor 1016				38 U	38 U	39 U	180 U	38 U
Pcb-araclor 1221				77 U	78 U	80 U	360 U	76 U
Pcb-araclor 1232				38 U	38 U	39 U	180 U	38 U
Pcb-araclor 1242				38 U	38 U	39 U	180 U	38 U
Pcb-araclor 1248				38 U	38 U	39 U	180 U	38 U
Pcb-araclor 1254		2000		38 U	240 J	220 J	180 U	38 U
Pcb-araclor 1260		2000		38 U	200 NJ	240 NJ	180 U	38 U
Toxaphene	50000		31000	200 U	200 U	200 U	910 U	190 U

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Table G.4
Surface Soil - PCB and Pesticide Results
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Station ID	(A)	(B)	(C)	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB118-SS	MA-SB120-SS	MA-SB122-SS	MA-SB124-SS	MA-SB124-SS-D
Sample Date				10/18/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001
Sample Interval				0.5 - 1 ft	1 - 2.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DD8	B0DB0	B0DB3	B0DB7	B0DB4
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	2 U	1.9 U	1.8 U	160 J	90
BHC, alpha			0.5	2 U	1.9 U	1.8 U	4 U	4 U
BHC, beta			3	3.1 R	1.9 U	1.8 U	10 R	94 JN (C)
BHC, delta			9	2 U	1.9 U	1.8 U	4 U	4 U
BHC, gamma (Lindane)	50000		9	2 U	1.9 UJ	1.8 UJ	4 UJ	4 UJ
Chlordane - alpha			23000	2 U	50 JN	120 J	300 J	120 J
Chlordane - gamma (technical mixture)			10000	2 U	52	140	750	360
DDD-4,4	50000		16000	3.8 U	3.7 U	3.6 U	7.8 U	7.7 U
DDE-4,4	50000	9000	54000	81 J	15 J	30	260	130 J
DDT-4,4	500000	9000	32000	3.8 U	8.2 R	3.6 UJ	100 R	150 JN
Dieldrin	50000	180	4	3.8 U	5.7 JN (C)	15 JN (C)	1300 (BC)	640 (BC)
Endosulfan I (alpha)			18000	2 U	1.9 U	1.8 U	4 U	4 U
Endosulfan II (beta)				3.8 U	3.7 U	3.6 U	25 J	7.7 U
Endosulfan Sulfate			1000	3.8 U	3.7 U	9.5 JN	73 J	45
Endrin	50000		1000	3.8 U	8.6	12 JN	81 JN	7.7 U
Endrin Aldehyde			1000	3.8 U	3.7 U	3.6 U	7.8 U	7.7 U
Endrin ketone			1000	3.8 U	3.7 U	3.6 U	95 JN	61 JN
Heptachlor	50000	650	23000	2 U	1.9 U	1.8 U	160 R	120
Heptachlor Epoxide			700	4.1 R	1.9 U	10 JN	33 R	20 JN
Methoxychlor	50000		160000	20 U	19 U	18 U	120 R	64 R
Pcb-araclor 1016				38 U	37 U	36 U	78 U	77 U
Pcb-araclor 1221				77 U	75 U	73 U	160 U	160 U
Pcb-araclor 1232				38 U	37 U	36 U	78 U	77 U
Pcb-araclor 1242				38 U	37 U	36 U	78 U	77 U
Pcb-araclor 1248				38 U	37 U	36 U	78 U	77 U
Pcb-araclor 1254		2000		2000 (B)	37 U	36 U	78 U	77 U
Pcb-araclor 1260		2000		38 U	37 U	36 U	78 U	77 U
Toxaphene	50000		31000	200 U	190 U	180 U	400 U	400 U

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Table G.4
Surface Soil - PCB and Pesticide Results
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Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB13-SS	MA-SB130-SS	MA-SB131-SS	MA-SB14-SS	MA-SB29-SS-1.0
Sample Date			F20	10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DF5	B0DC0	B0DF3	B0D93	B0DX6
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	1.8 U	3.6 U	1.8 U	2.6 JN	1.9 UJ
BHC, alpha			0.5	1.8 U	3.6 U	1.8 U	2 U	1.9 UJ
BHC, beta			3	1.8 U	20 R	1.8 U	2 U	1.9 UJ
BHC, delta			9	1.8 U	3.6 U	1.8 U	2 U	1.9 UJ
BHC, gamma (Lindane)	50000		9	1.8 U	3.6 UJ	1.8 U	2 UJ	1.9 UJ
Chlordane - alpha			23000	1.8 U	3.6 U	6.8 JN	160 JN	1.9 UJ
Chlordane - gamma (technical mixture)			10000	3.5 R	3.6 U	8.5	190	4.8 J
DDD-4,4	50000		16000	3.4 U	7 U	3.5 U	3.9 U	3.8 UJ
DDE-4,4	50000	9000	54000	3.4 U	290	3.5 U	94	3.8 UJ
DDT-4,4	500000	9000	32000	3.4 U	2600	3.5 U	3.9 UJ	3.8 UJ
Dieldrin	50000	180	4	3.5 JN	7 U	3.5 U	6.9 JN (C)	3.8 UJ
Endosulfan I (alpha)			18000	1.8 U	3.6 U	1.8 U	2 U	1.9 UJ
Endosulfan II (beta)				3.4 U	7 U	3.5 U	3.9 U	3.8 UJ
Endosulfan Sulfate			1000	3.4 U	42 JN	3.5 U	3.9 U	3.8 UJ
Endrin	50000		1000	3.4 U	7 U	3.5 U	3.9 U	3.8 UJ
Endrin Aldehyde			1000	3.4 U	7 U	3.5 U	3.9 U	3.8 UJ
Endrin ketone			1000	3.4 U	7 U	3.5 U	3.9 U	3.8 UJ
Heptachlor	50000	650	23000	1.8 U	3.6 U	1.8 U	2 U	1.9 UJ
Heptachlor.Epoxide			700	1.8 U	3.6 U	1.8 U	2 U	1.9 UJ
Methoxychlor	50000		160000	18 U	36 U	18 U	20 U	19 UJ
Pcb-araclor 1016				34 U	70 U	35 U	39 U	38 UJ
Pcb-araclor 1221				69 U	140 U	71 U	80 U	77 UJ
Pcb-araclor 1232				34 U	70 U	35 U	39 U	38 UJ
Pcb-araclor 1242				34 U	70 U	35 U	39 U	38 UJ
Pcb-araclor 1248				34 U	70 U	35 U	39 U	38 UJ
Pcb-araclor 1254		2000		34 U	1800 R	35 U	370 J	38 UJ
Pcb-araclor 1260		2000		250	70 U	35 U	39 U	38 UJ
Toxaphene	50000		31000	180 U	360 U	180 U	200 U	190 UJ

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Table G.4
Surface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-56
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB31-SS	MA-SB42-SS	MA-SB47-SS	MA-SB56-SS	MA-SB56-SS-D
Sample Date				10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DC5	B0DD0	B0DD1	B0DA3	B0DA0
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	4.2 U	1.8 U	2.1 U	2 U	2.2 U
BHC, alpha			0.5	4.2 U	1.8 U	2.1 U	2 U	2.2 U
BHC, beta			3	4.2 U	1.8 U	2.1 U	2 U	2.2 U
BHC, delta			9	4.2 U	1.8 U	2.1 U	2 U	2.2 U
BHC, gamma (Lindane)	50000		9	4.2 UJ	1.8 UJ	2.1 UJ	2 UJ	2.2 UJ
Chlordane - alpha			23000	76	1.8 U	35 J	2 U	2.2 U
Chlordane - gamma (technical mixture)			10000	59 J	1.8 U	38 J	2 U	2.2 U
DDD-4,4	50000		16000	8.2 U	3.5 U	4 U	4 U	8.7
DDE-4,4	50000	9000	54000	310 J	3.5 U	28	9.4 JN	4.2 U
DDT-4,4	500000	9000	32000	43 JN	3.5 UJ	21 JN	33 JN	7.1 JN
Dieldrin	50000	180	4	8.2 U	3.5 U	13 (C)	8.4 R	4.2 U
Endosulfan I (alpha)			18000	4.2 U	1.8 U	2.1 U	2 U	2.2 U
Endosulfan II (beta)				8.2 U	3.5 U	5.1 JN	4 U	4.2 U
Endosulfan Sulfate			1000	8.2 U	3.5 U	5.4 R	4 U	4.2 U
Endrin	50000		1000	8.2 U	3.5 U	4 U	29 JN	12
Endrin Aldehyde			1000	8.2 U	3.5 U	4 U	15 R	22 JN
Endrin ketone			1000	8.2 U	3.5 U	4 U	68 J	4.8 JN
Heptachlor	50000	650	23000	4.2 U	1.8 U	2.1 U	2 U	2.2 U
Heptachlor Epoxide			700	19 J	1.8 U	2.1 U	2.3 R	2.2 U
Methoxychlor	50000		160000	42 U	18 U	21 U	160 J	38 JN
Pcb-araclor 1016				82 U	35 U	40 U	40 U	42 U
Pcb-araclor 1221				170 U	72 U	82 U	81 U	86 U
Pcb-araclor 1232				82 U	35 U	40 U	40 U	42 U
Pcb-araclor 1242				82 U	35 U	40 U	40 U	42 U
Pcb-araclor 1248				82 U	35 U	40 U	40 U	42 U
Pcb-araclor 1254		2000		82 U	35 U	40 U	40 U	42 U
Pcb-araclor 1260		2000		82 U	35 U	280	40 U	42 U
Toxaphene	50000		31000	420 U	180 U	210 U	200 U	220 U

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N -

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Table G.4
Surface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	(C)	MA-SB-60	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB60-SS	MA-SB62-SS-1	MA-SB66-SS-0.5	MA-SB67-SS-1.0	MA-SB68-SS-1.0
Sample Date				10/16/2001	12/12/2001	12/13/2001	12/12/2001	12/13/2001
Sample Interval				1.5 - 2 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DA4	B0DX1	B0DZ5	B0DX4	B0DY7
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	1300 (BC)	1.9 UJ	1.9 UJ	1.9 UJ	1.8 UJ
BHC, alpha			0.5	19 U	1.9 UJ	1.9 UJ	1.9 UJ	1.8 UJ
BHC, beta			3	37 (C)	1.9 UJ	1.9 UJ	1.9 UJ	1.8 UJ
BHC, delta			9	19 U	1.9 UJ	1.9 UJ	1.9 UJ	1.8 UJ
BHC, gamma (Lindane)	50000		9	19 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Chlordane - alpha			23000	8100 JN	1.9 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Chlordane - gamma (technical mixture)			10000	8900	2.5 R	1.9 UJ	1.9 UJ	1.8 UJ
DDD-4,4	50000		16000	38 U	3.7 UJ	5 J	3.7 UJ	3.6 UJ
DDE-4,4	50000	9000	54000	850 J	6.1 J	4.9 J	3.7 UJ	3.6 UJ
DDT-4,4	500000	9000	32000	38 UJ	3.8 J	6.8 J	3.7 UJ	3.6 UJ
Dieldrin	50000	180	4	230 (BC)	3.7 UJ	3.7 UJ	3.7 UJ	3.6 UJ
Endosulfan I (alpha)			18000	120	1.9 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Endosulfan II (beta)				38 U	3.7 UJ	3.7 UJ	3.7 UJ	3.6 UJ
Endosulfan Sulfate			1000	38 U	3.7 UJ	3.7 UJ	3.7 UJ	3.6 UJ
Endrin	50000		1000	38 U	3.7 UJ	3.7 UJ	3.7 UJ	3.6 UJ
Endrin Aldehyde			1000	38 U	3.7 UJ	3.7 UJ	3.7 UJ	3.6 UJ
Endrin ketone			1000	38 U	4 J	3.7 UJ	8.4 J	3.6 UJ
Heptachlor	50000	650	23000	19 U	1.9 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Heptachlor Epoxide			700	19 U	1.9 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Methoxychlor	50000		160000	190 U	19 UJ	19 UJ	19 UJ	18 UJ
Pcb-araclor 1016				380 U	37 UJ	37 UJ	37 UJ	36 UJ
Pcb-araclor 1221				760 U	75 UJ	75 UJ	74 UJ	73 UJ
Pcb-araclor 1232				380 U	37 UJ	37 UJ	37 UJ	36 UJ
Pcb-araclor 1242				380 U	37 UJ	37 UJ	37 UJ	36 UJ
Pcb-araclor 1248				380 U	37 UJ	37 UJ	37 UJ	36 UJ
Pcb-araclor 1254		2000		4700 (B)	37 UJ	37 UJ	37 UJ	36 UJ
Pcb-araclor 1260		2000		380 U	37 UJ	37 UJ	37 UJ	36 UJ
Toxaphene	50000		31000	1900 U	190 UJ	190 UJ	190 UJ	180 UJ

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Surface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	(C)	MA-SB-69	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB69-SS-1.0	MA-SB71-SS-0.5	MA-SB72-SS-0.5	MA-SB75-SS-1.0	MA-SB77-SS-1.0
Sample Date				12/12/2001	12/13/2001	12/13/2001	12/12/2001	12/12/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DW7	B0DZ3	B0DY9	B0DW6	B0DX8
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ
BHC, alpha			0.5	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ
BHC, beta			3	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ
BHC, delta			9	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ
BHC, gamma (Lindane)	50000		9	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ
Chlordane - alpha			23000	2 J	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ
Chlordane - gamma (technical mixture)			10000	1.9 UJ	1.9 UJ	3 R	1.9 UJ	2 UJ
DDD-4,4	50000		16000	3.7 UJ	3.7 UJ	3.6 UJ	3.6 UJ	3.9 UJ
DDE-4,4	50000	9000	54000	3.7 UJ	3.7 UJ	3.6 UJ	3.6 UJ	3.9 UJ
DDT-4,4	500000	9000	32000	3.7 UJ	3.7 UJ	3.6 UJ	5.6 J	3.9 UJ
Dieldrin	50000	180	4	3.7 UJ	3.7 UJ	3.6 UJ	3.6 UJ	3.9 UJ
Endosulfan I (alpha)			18000	2.3 J	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ
Endosulfan II (beta)				3.7 UJ	3.7 UJ	3.6 UJ	3.6 UJ	3.9 UJ
Endosulfan Sulfate			1000	3.7 UJ	3.7 UJ	3.6 UJ	3.6 UJ	3.9 UJ
Endrin	50000		1000	3.7 UJ	3.7 UJ	3.6 UJ	3.6 UJ	3.9 UJ
Endrin Aldehyde			1000	3.7 UJ	3.7 UJ	3.6 UJ	3.6 UJ	3.9 UJ
Endrin ketone			1000	3.7 UJ	3.7 UJ	3.6 UJ	6.2 J	3.9 UJ
Heptachlor	50000	650	23000	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ
Heptachlor Epoxide			700	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ
Methoxychlor	50000		160000	19 UJ	19 UJ	19 UJ	19 UJ	20 UJ
Pcb-araclor 1016				37 UJ	37 UJ	36 UJ	36 UJ	39 UJ
Pcb-araclor 1221				74 UJ	75 UJ	74 UJ	74 UJ	79 UJ
Pcb-araclor 1232				37 UJ	37 UJ	36 UJ	36 UJ	39 UJ
Pcb-araclor 1242				37 UJ	37 UJ	36 UJ	36 UJ	39 UJ
Pcb-araclor 1248				37 UJ	37 UJ	36 UJ	36 UJ	39 UJ
Pcb-araclor 1254		2000		37 UJ	37 UJ	36 UJ	36 UJ	39 UJ
Pcb-araclor 1260		2000		37 UJ	37 UJ	36 UJ	36 UJ	39 UJ
Toxaphene	50000		31000	190 UJ	190 UJ	190 UJ	190 UJ	200 UJ

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Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.4
Surface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-78	MA-SB-79	MA-SB-81	MA-SB-81	MA-SB-82
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB78-SS-0.5	MA-SB79-SS-0.5	MA-SB81-SS	MA-SB81-SS-D	MA-SB82-SS
Sample Date			F20	12/13/2001	12/13/2001	10/18/2001	10/18/2001	10/19/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft
CLP Sample ID				B0DY5	B0DZ1	B0DE1	B0DD9	B0DE8
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	1.9 UJ	1.9 UJ	2.1 U	2.1 U	3.9 U
BHC, alpha			0.5	1.9 UJ	1.9 UJ	2.1 U	2.1 U	3.9 U
BHC, beta			3	1.9 UJ	1.9 UJ	3.8 JN (C)	6.8 J (C)	3.9 U
BHC, delta			9	1.9 UJ	1.9 UJ	2.1 U	2.1 U	3.9 U
BHC, gamma (Lindane)	50000		9	1.9 UJ	1.9 UJ	2.1 U	2.1 U	3.9 U
Chlordane - alpha			23000	1.9 UJ	1.9 UJ	2.1 U	2.1 U	66 J
Chlordane - gamma (technical mixture)			10000	1.9 UJ	1.9 UJ	2.1 U	2.1 U	110
DDD-4,4	50000		16000	3.7 UJ	3.6 UJ	4.1 U	4 U	7.6 U
DDE-4,4	50000	9000	54000	3.7 UJ	3.6 UJ	4.1 U	8.2 J	140 R
DDT-4,4	500000	9000	32000	3.7 UJ	3.6 UJ	4.1 U	4 U	730 J
Dieldrin	50000	180	4	3.7 UJ	3.6 UJ	4.1 U	4 U	7.6 U
Endosulfan I (alpha)			18000	1.9 UJ	1.9 UJ	2.1 U	2.1 U	3.9 U
Endosulfan II (beta)				3.7 UJ	3.6 UJ	4.1 U	4 U	8.1 R
Endosulfan Sulfate			1000	3.7 UJ	3.6 UJ	4.1 U	4 U	7.6 U
Endrin	50000		1000	3.7 UJ	3.6 UJ	4.1 U	4 U	130
Endrin Aldehyde			1000	3.7 UJ	3.6 UJ	4.1 U	4 U	7.6 U
Endrin ketone			1000	3.7 UJ	3.6 UJ	4.1 U	4 U	7.6 U
Heptachlor	50000	650	23000	1.9 UJ	1.9 UJ	2.1 U	2.1 U	3.9 U
Heptachlor Epoxide			700	1.9 UJ	1.9 UJ	2.1 U	2.1 U	3.9 U
Methoxychlor	50000		160000	19 UJ	19 UJ	21 U	21 U	39 U
Pcb-araclor 1016				37 UJ	36 UJ	41 U	40 U	76 U
Pcb-araclor 1221				76 UJ	73 UJ	83 U	82 U	150 U
Pcb-araclor 1232				37 UJ	36 UJ	41 U	40 U	76 U
Pcb-araclor 1242				37 UJ	36 UJ	41 U	40 U	76 U
Pcb-araclor 1248				37 UJ	36 UJ	41 U	840 J	76 U
Pcb-araclor 1254		2000		37 UJ	36 UJ	47	40 U	76 U
Pcb-araclor 1260		2000		37 UJ	36 UJ	41 U	40 U	76 U
Toxaphene	50000		31000	190 UJ	190 UJ	210 U	210 U	390 U

J - Reported value estimated in quantity
N -
R - Rejected value
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
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Table G.4
Surface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-85	MA-SB-96	MA-SB-97	MA-SB-98	MA-SO-201
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB85-SS-1.0	MA-SB96-SS	MA-SB97-SS	MA-SB98-SS	MA-SO201-SS
Sample Date				12/17/2001	10/22/2001	10/22/2001	10/22/2001	10/17/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft
CLP Sample ID				B0FW1	B0DG5	B0DG3	B0DH2	B0DB8
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	1.9 U	1.9 U	2.1 U	1.9 U	42 U
BHC, alpha			0.5	1.9 U	1.9 U	2.1 U	1.9 U	42 U
BHC, beta			3	1.9 U	1.9 U	2.1 U	1.9 U	42 U
BHC, delta			9	1.9 U	1.9 U	2.1 U	1.9 U	42 U
BHC, gamma (Lindane)	50000		9	1.9 U	1.9 U	2.1 U	1.9 U	42 UJ
Chlordane - alpha			23000	1.9 U	1.9 U	2.1 U	1.9 U	310 J
Chlordane - gamma (technical mixture)			10000	1.9 U	5.8 NJ	2.9 J	1.9 U	42 U
DDD-4,4	50000		16000	7.1 J	3.7 U	4 U	3.8 U	81 U
DDE-4,4	50000	9000	54000	26	7.2 NJ	4 U	3.8 U	15000 J (B)
DDT-4,4	500000	9000	32000	56	27 J	4.7	3.8 U	990 R
Dieldrin	50000	180	4	3.7 U	3.7 U	4 U	3.8 U	81 U
Endosulfan I (alpha)			18000	1.9 U	1.9 U	2.1 U	1.9 U	42 U
Endosulfan II (beta)				8.4 NJ	3.7 U	4 U	3.8 U	81 U
Endosulfan Sulfate			1000	3.7 U	3.7 U	4 U	3.8 U	390 R
Endrin	50000		1000	11	3.7 U	4 U	3.8 U	81 U
Endrin Aldehyde			1000	4.2 R	10 J	4 U	14 NJ	81 U
Endrin ketone			1000	3.7 U	6.8 NJ	8 NJ	10 NJ	120 R
Heptachlor	50000	650	23000	1.9 U	1.9 U	2.1 U	1.9 U	42 U
Heptachlor Epoxide			700	2	1.9 U	2.1 U	1.9 U	42 U
Methoxychlor	50000		160000	19 U	19 UJ	20 UJ	19 UJ	420 U
Pcb-araclor 1016				37 U	37 U	40 U	38 U	810 U
Pcb-araclor 1221				76 U	75 U	81 U	76 U	1600 U
Pcb-araclor 1232				37 U	37 U	40 U	38 U	810 U
Pcb-araclor 1242				37 U	37 U	40 U	38 U	810 U
Pcb-araclor 1248				37 U	37 U	40 U	38 U	810 U
Pcb-araclor 1254		2000		37 U	150 NJ	40 U	38 U	19000 (B)
Pcb-araclor 1260		2000		37 U	110 NJ	40 U	38 U	810 U
Toxaphene	50000		31000	190 U	190 U	200 U	190 U	4200 U

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N -

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Exceedences highlighted

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Table G.4
Surface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-202	MA-SO-203	MA-SO-204	MA-SO-206	MA-SO-207
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO202-SS-1	MA-SO203-SS	MA-SO204-SS-0.5	MA-SO206-SS-1.5	MA-SO207-SS
Sample Date				12/14/2001	10/19/2001	12/17/2001	12/17/2001	10/22/2001
Sample Interval				1 - 1.5 ft	0.5 - 1 ft	0.5 - 1 ft	1.5 - 2 ft	0.5 - 1 ft
CLP Sample ID				B0FT0	B0DF4	B0FW4	B0FT8	B0DH3
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	1.8 U	1.9 U	73 JN	2 U	1.9 U
BHC, alpha			0.5	1.8 U	1.9 U	1.9 U	2 U	1.9 U
BHC, beta			3	1.8 U	1.9 U	6.9 R	2 U	1.9 U
BHC, delta			9	1.8 U	1.9 U	1.9 U	2 U	1.9 U
BHC, gamma (Lindane)	50000		9	1.8 U	1.9 U	1.9 U	2 U	1.9 U
Chlordane - alpha			23000	1.8 U	1.9 U	22 R	2 U	1.9 U
Chlordane - gamma (technical mixture)			10000	1.8 U	19	27 J	2 U	1.9 U
DDD-4,4	50000		16000	3.4 U	3.7 U	3.7 U	3.9 U	3.6 U
DDE-4,4	50000	9000	54000	3.4 U	3.7 U	170	3.9 U	3.6 U
DDT-4,4	500000	9000	32000	3.5 J	3.7 U	21 NJ	3.9 U	3.6 U
Dieldrin	50000	180	4	3.4 U	4.5 JN (C)	120 JN (C)	3.9 U	3.6 U
Endosulfan I (alpha)			18000	1.8 U	1.9 U	1.9 U	2 U	1.9 U
Endosulfan II (beta)				5.3 NJ	3.7 U	3.7 U	3.9 U	3.6 U
Endosulfan Sulfate			1000	3.4 U	3.7 U	3.7 U	3.9 U	3.6 U
Endrin	50000		1000	8.2	3.7 U	3.7 U	2.9 J	3.6 U
Endrin Aldehyde			1000	3.4 U	3.7 U	14 R	3.9 U	3.6 U
Endrin ketone			1000	10 NJ	3.7 U	3.7 U	4.2 NJ	9.4
Heptachlor	50000	650	23000	1.8 U	1.9 U	9.7 J	2 U	1.9 U
Heptachlor Epoxide			700	1.4 J	1.9 U	1.9 U	2 U	1.9 U
Methoxychlor	50000		160000	18 U	19 U	19 U	20 U	19 U
Pcb-araclor 1016				34 U	37 U	37 U	39 U	36 U
Pcb-araclor 1221				70 U	75 U	76 U	79 U	74 U
Pcb-araclor 1232				34 U	37 U	37 U	39 U	36 U
Pcb-araclor 1242				34 U	37 U	37 U	39 U	36 U
Pcb-araclor 1248				34 U	37 U	37 U	39 U	36 U
Pcb-araclor 1254		2000		34 U	37 U	3200 J (B)	39 U	36 U
Pcb-araclor 1260		2000		34 U	1300	37 U	39 U	36 U
Toxaphene	50000		31000	180 U	190 U	190 U	200 U	190 U

J - Reported value estimated in quantity
N -
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U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
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Table G.4
Surface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	(C)	MA-SO-208	MA-SO-209	MA-SO-210	MA-SO-211	MA-SO-212
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO208-SS	MA-SO209-SS	MA-SO210-SS-0.5	MA-SO211-SS-1.0	MA-SO212-SS-1.0
Sample Date				10/22/2001	10/22/2001	12/14/2001	12/14/2001	12/14/2001
Sample Interval				0.5 - 1 ft	0.5 - 1 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DH6	B0DH8	B0FW3	B0FT2	B0FT4
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	1.9 U	1.8 U	1.8 U	2 U	1.9 U
BHC, alpha			0.5	1.9 U	1.8 U	1.8 U	2 U	1.9 U
BHC, beta			3	1.9 U	1.8 U	1.8 U	2 U	1.9 U
BHC, delta			9	1.9 U	1.8 U	1.8 U	2 U	1.9 U
BHC, gamma (Lindane)	50000		9	1.9 U	1.8 U	1.8 U	2 U	1.9 NJ
Chlordane - alpha			23000	3.5 J	1.8 U	41	1.2 J	1.9 U
Chlordane - gamma (technical mixture)			10000	13 J	1.8 U	41 J	2 U	1.9 U
DDD-4,4	50000		16000	3.8 U	3.6 U	3.6 U	3.8 U	3.8 U
DDE-4,4	50000	9000	54000	16 J	3.6 U	4.7 J	3.8 U	3.6 J
DDT-4,4	500000	9000	32000	30 NJ	3.6 U	22	3.8 U	9.2
Dieldrin	50000	180	4	18 NJ (C)	3.6 U	3.6 U	3.8 U	3.8 U
Endosulfan I (alpha)			18000	1.9 U	1.8 U	1.8 U	2 U	1.9 U
Endosulfan II (beta)				3.8 U	3.6 U	3.6 U	3.8 U	3.8 U
Endosulfan Sulfate			1000	3.8 U	3.6 U	3.6 U	3.8 U	3.8 U
Endrin	50000		1000	5.1 NJ	3.6 U	3.6 U	3.8 U	2.6 J
Endrin Aldehyde			1000	33 J	5.4	3.6 U	3.8 U	3.8 U
Endrin ketone			1000	20 NJ	3.6 U	3.6 U	3.8 U	8 NJ
Heptachlor	50000	650	23000	1.9 U	1.8 U	1.8 U	2 U	1.9 U
Heptachlor Epoxide			700	1.9 U	1.8 U	1.8 U	2 U	1.9 U
Methoxychlor	50000		160000	19 UJ	18 UJ	11 J	11 J	19 U
Pcb-araclor 1016				38 U	35 U	36 U	38 U	38 U
Pcb-araclor 1221				76 U	72 U	73 U	78 U	77 U
Pcb-araclor 1232				38 U	35 U	36 U	38 U	38 U
Pcb-araclor 1242				38 U	35 U	36 U	38 U	38 U
Pcb-araclor 1248				38 U	35 U	36 U	38 U	38 U
Pcb-araclor 1254		2000		410	35 U	36 U	38 U	38 U
Pcb-araclor 1260		2000		220 NJ	35 U	36 U	38 U	38 U
Toxaphene	50000		31000	190 U	180 U	180 U	200 U	190 U

J - Reported value estimated in quantity

N -

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U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria

Exceedences highlighted

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Table G.4
Surface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	(C)	MA-SO-212	MA-SO-213	MA-SO-214	MA-SO-301	MA-SO-301
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO212-SS-1.0D	MA-SO213-SS-1.0	MA-SO214-SS	MA-SO301-SS-1.0	MA-SO301-SS-1.0D
Sample Date				12/14/2001	12/14/2001	10/18/2001	12/13/2001	12/13/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	0.5 - 1 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0FT7	B0FT5	B0DD2	B0DY2	B0DY3
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	2 U	2 U	4.4 U	2 UJ	1.9 UJ
BHC, alpha			0.5	2 U	2 U	4.4 U	2 UJ	1.9 UJ
BHC, beta			3	2 U	2 U	4.4 U	2 UJ	1.9 UJ
BHC, delta			9	2 U	2 U	4.4 U	2 UJ	1.9 UJ
BHC, gamma (Lindane)	50000		9	2 U	2 U	4.4 UJ	2 UJ	1.9 UJ
Chlordane - alpha			23000	2 U	1 J	22 R	2 UJ	1.9 UJ
Chlordane - gamma (technical mixture)			10000	2 U	2 U	4.4 U	3.5 R	3.1 R
DDD-4,4	50000		16000	3.9 U	3.9 U	8.5 U	3.9 UJ	3.8 UJ
DDE-4,4	50000	9000	54000	3.9 U	3.9 U	11 R	6.2 R	9.1 R
DDT-4,4	500000	9000	32000	4.8 NJ	2 J	22 JN	3.9 UJ	3.8 UJ
Dieldrin	50000	180	4	3.9 U	3.9 U	8.5 U	3.9 UJ	3.8 UJ
Endosulfan I (alpha)			18000	2 U	2 U	4.4 U	2 UJ	1.9 UJ
Endosulfan II (beta)				3.9 U	3.9 U	8.5 U	3.9 UJ	3.8 UJ
Endosulfan Sulfate			1000	3.9 U	3.9 U	8.5 U	5.4 R	3.8 UJ
Endrin	50000		1000	3 J	5.3	36 J	3.9 UJ	49 J
Endrin Aldehyde			1000	3.9 U	3.9 U	12 JN	3.9 UJ	3.8 UJ
Endrin ketone			1000	6.1 NJ	3.9 U	120	3.9 UJ	3.8 UJ
Heptachlor	50000	650	23000	2 U	2 U	6.8 JN	4.4 J	4.9 J
Heptachlor.Epoxide			700	2 U	2 U	4.4 U	2 UJ	1.9 UJ
Methoxychlor	50000		160000	20 U	20 U	140 R	20 UJ	19 UJ
Pcb-araclor 1016				39 U	39 U	85 U	39 UJ	38 UJ
Pcb-araclor 1221				79 U	79 U	170 U	80 UJ	77 UJ
Pcb-araclor 1232				39 U	39 U	85 U	39 UJ	38 UJ
Pcb-araclor 1242				39 U	39 U	85 U	39 UJ	38 UJ
Pcb-araclor 1248				39 U	39 U	85 U	39 UJ	38 UJ
Pcb-araclor 1254		2000		39 U	39 U	85 U	39 UJ	38 UJ
Pcb-araclor 1260		2000		39 U	39 U	85 U	39 UJ	38 UJ
Toxaphene	50000		31000	200 U	200 U	440 U	200 UJ	190 UJ

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N -
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Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	(C)	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-401	MA-SO-402
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SO302-SS-1.0	MA-SO303-SS-1.0	MA-SO401-SS-1.0	MA-SO401-SS-1.0D	MA-SO402-SS-1.0
Sample Date			F20	12/12/2001	12/13/2001	12/17/2001	12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0DW9	B0DY0	B0FX7	B0FW8	B0FX6
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	1.9 UJ	1.9 UJ	1.8 UJ	1.9 U	2 U
BHC, alpha			0.5	1.9 UJ	1.9 UJ	1.8 UJ	1.9 U	2 U
BHC, beta			3	1.9 UJ	1.9 UJ	1.8 UJ	1.9 U	2 U
BHC, delta			9	1.9 UJ	1.9 UJ	1.8 UJ	1.9 U	2 U
BHC, gamma (Lindane)	50000		9	1.9 UJ	1.9 UJ	1.8 UJ	1.9 U	2 U
Chlordane - alpha			23000	1.9 UJ	1.9 UJ	1.8 UJ	1.9 U	2 U
Chlordane - gamma (technical mixture)			10000	1.9 UJ	1.9 UJ	1.8 UJ	1.9 U	2 U
DDD-4,4	50000		16000	3.7 UJ	3.8 UJ	3.6 UJ	3.6 U	3.9 U
DDE-4,4	50000	9000	54000	3.7 UJ	3.8 UJ	3.6 UJ	3.6 U	3.9 U
DDT-4,4	500000	9000	32000	3.7 UJ	4.9 NJ	3.6 UJ	4.6	8.2 J
Dieldrin	50000	180	4	3.7 UJ	3.8 UJ	3.6 UJ	3.6 U	3.9 U
Endosulfan I (alpha)			18000	1.9 UJ	1.9 UJ	1.8 UJ	1.9 U	2 U
Endosulfan II (beta)				3.7 UJ	3.8 UJ	3.6 UJ	3.6 U	3.9 U
Endosulfan Sulfate			1000	3.7 UJ	3.8 UJ	3.6 UJ	3.6 U	4.1 J
Endrin	50000		1000	3.7 UJ	3.8 UJ	3.6 UJ	3.6 U	3.9 U
Endrin Aldehyde			1000	3.7 UJ	3.8 UJ	3.6 UJ	3.6 U	3.9 U
Endrin ketone			1000	3.7 UJ	3.8 UJ	3.6 UJ	3.6 U	3.9 U
Heptachlor	50000	650	23000	1.9 UJ	1.9 UJ	1.8 UJ	1.9 U	2.3
Heptachlor Epoxide			700	1.9 UJ	1.9 UJ	1.8 UJ	1.9 U	2 U
Methoxychlor	50000		160000	19 UJ	19 UJ	18 UJ	19 U	20 U
Pcb-araclor 1016				37 UJ	38 UJ	36 UJ	36 U	39 U
Pcb-araclor 1221				76 UJ	77 UJ	73 UJ	74 U	79 U
Pcb-araclor 1232				37 UJ	38 UJ	36 UJ	36 U	39 U
Pcb-araclor 1242				37 UJ	38 UJ	36 UJ	36 U	39 U
Pcb-araclor 1248				37 UJ	38 UJ	36 UJ	36 U	39 U
Pcb-araclor 1254		2000		37 UJ	38 UJ	36 UJ	36 U	39 U
Pcb-araclor 1260		2000		37 UJ	38 UJ	36 UJ	36 U	39 U
Toxaphene	50000		31000	190 UJ	190 UJ	180 UJ	190 U	200 U

J - Reported value estimated in quantity

N -

R - Rejected value

U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria

Exceedences highlighted

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05/20/2004
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup

Criteria
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Table G.4
Surface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-403	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO403-SS-1.0	MA-SO404-SS-1.0
Sample Date				12/17/2001	12/17/2001
Sample Interval				1 - 1.5 ft	1 - 1.5 ft
CLP Sample ID				B0FX2	B0FX5
Chemical Name					
Pesticides and PCBs (ug/Kg)					
Aldrin	50000	170	500	1.9 U	1.8 U
BHC, alpha			0.5	2.3 R	1.8 U
BHC, beta			3	1.9 U	1.8 U
BHC, delta			9	1.9 U	1.8 U
BHC, gamma (Lindane)	50000		9	2.1 R	1.8 U
Chlordane - alpha			23000	1 J	1.8 U
Chlordane - gamma (technical mixture)			10000	1.9 U	1.8 U
DDD-4,4	50000		16000	3.7 U	3.5 U
DDE-4,4	50000	9000	54000	3.7 U	3.5 U
DDT-4,4	500000	9000	32000	6.1 J	3.5 U
Dieldrin	50000	180	4	3.7 U	3.5 U
Endosulfan I (alpha)			18000	1.9 U	1.8 U
Endosulfan II (beta)				3.7 U	3.5 U
Endosulfan Sulfate			1000	3.7 U	3.5 U
Endrin	50000		1000	13 J	7 J
Endrin Aldehyde			1000	4.6 R	3.5 U
Endrin ketone			1000	3.7 U	3.5 U
Heptachlor	50000	650	23000	2.6 NJ	1.8 U
Heptachlor Epoxide			700	2.6 NJ	1.8 U
Methoxychlor	50000		160000	19 U	18 U
Pcb-araclor 1016				37 U	35 U
Pcb-araclor 1221				76 U	70 U
Pcb-araclor 1232				37 U	35 U
Pcb-araclor 1242				37 U	35 U
Pcb-araclor 1248				37 U	35 U
Pcb-araclor 1254		2000		37 U	35 U
Pcb-araclor 1260		2000		37 U	35 U
Toxaphene	50000		31000	190 U	180 U

J - Reported value estimated in quantity
N -
R - Rejected value
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-12S	MA-MW-13S	MA-MW-14S	MA-MW-14S	MA-MW-15S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-12S-S	MA-MW-13S-S	MA-MW-14S-S-9	MA-MW-14S-S-9D	MA-MW-15S-S
Sample Date				10/30/2001	10/30/2001	01/10/2002	01/10/2002	10/29/2001
Sample Interval				5.4 - 15.4 ft	6.6 - 16.6 ft	7 - 20 ft	7 - 20 ft	6.8 - 16.8 ft
CLP Sample ID				B0AW8	B0AX0	B0G11	B0G08	B0DH0
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	97	100 B	14 UJ	19 U	49 B
Benzene	1000	13000	30	2 J	210 (C)	14 U	19 U	1 J
Bromoform	1000		800	15 U	12 U	14 U	19 U	11 U
Bromomethane	1000	1000000	200	15 U	12 U	14 U	19 U	11 U
Carbon disulfide			32000	4 J	16	14 U	19 U	15
Carbon tetrachloride	1000		70	15 U	12 U	14 UJ	19 U	11 U
Chlorobenzene	1000		1000	15 U	12 U	14 U	19 U	11 U
Chloroethane				15 U	12 U	14 U	19 U	11 U
Chloroform	1000	28000	600	15 U	12 U	14 U	19 U	11 U
Chloromethane	10000			15 U	12 U	14 U	19 U	11 U
Cyclohexane				15 U	4 J	14 U	19 U	11 U
DBCP (1,2-dibromo-3-chloropropane)				15 U	12 U	14 U	19 U	11 U
Dibromochloromethane	1000		400	15 U	12 U	14 U	19 U	11 U
Dibromoethane-1,2				15 U	12 U	14 U	19 U	11 U
Dichlorobenzene-1,2	50000		17000	4 J	4 J	14 U	19 U	11 U
Dichlorobenzene-1,3	100000			15 U	12 U	14 U	19 U	11 U
Dichlorobenzene-1,4	100000		2000	15 U	12 U	14 U	19 U	11 U
Dichlorobromomethane	1000		600	15 U	12 U	14 U	19 U	11 U
Dichlorodifluoromethane				15 U	12 U	14 U	19 U	11 U
Dichloroethane-1,1	10000		23000	5 J	8 J	2 J	19 U	11 U
Dichloroethane-1,2	1000		20	6 J	12 U	14 U	19 U	11 U
Dichloroethene-1,2 trans	50000		700	52	12 U	4 J	5 J	11 U
Dichloroethylene-1,1	10000		60	15 U	12 U	14 U	19 U	11 U
Dichloroethylene-1,2 cis	1000	1000000	400	260	12 J	75	89	5 J
Dichloropropane-1,2			30	15 U	12 U	14 U	19 U	11 U
Dichloropropene-1,3 cis			4	15 U	12 U	14 U	19 U	11 U
Dichloropropene-1,3 trans			4	15 U	12 U	14 U	19 U	11 U
Ethylbenzene	100000	1000000	13000	8 J	5 J	14 U	19 U	1 J
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				15 U	12 U	14 U	19 UJ	11 U

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-12S	MA-MW-13S	MA-MW-14S	MA-MW-14S	MA-MW-15S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-12S-S	MA-MW-13S-S	MA-MW-14S-S-9	MA-MW-14S-S-9D	MA-MW-15S-S
Sample Date				10/30/2001	10/30/2001	01/10/2002	01/10/2002	10/29/2001
Sample Interval				5.4 - 15.4 ft	6.6 - 16.6 ft	7 - 20 ft	7 - 20 ft	6.8 - 16.8 ft
CLP Sample ID				B0AW8	B0AX0	B0G11	B0G08	B0DH0
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				15 U	12 U	14 U	19 U	11 U
Isopropylbenzene				15 U	9 J	14 U	19 U	11 U
Methyl acetate				15 U	12 U	14 U	19 U	11 U
Methyl cyclohexane				4 J	15	14 U	19 U	11 U
Methyl ethyl ketone (2-butanone)	50000			1000 J	15	14 U	19 U	10 J
Methyl isobutyl ketone (4-methyl-2-penta	50000			8 J	27	14 U	19 U	11 U
Methyl tertiary butyl ether (MTBE)				15 U	12 U	14 U	19 U	11 U
Methylene chloride	1000		20	140 (C)	12 U	14 U	19 U	11 U
Styrene	100000		4000	15 U	12 U	14 U	19 U	11 U
Tetrachloroethane-1,1,2,2	1000		3	15 U	12 U	14 U	19 U	11 U
Tetrachloroethylene	1000	6000	60	1100 J (AC)	12 U	51	100 (C)	69 (C)
Toluene	500000	1000000	12000	2900 J	12 U	14 U	19 U	11 U
Trichlorobenzene-1,2,4	100000		5000	15 U	12 U	14 U	19 U	11 U
Trichloroethane-1,1,1	50000		2000	19	12 U	3 J	3 J	11 U
Trichloroethane-1,1,2	1000		20	15 U	12 U	14 U	19 U	11 U
Trichloroethylene	1000	54000	60	230 (C)	1 J	10 J	14 J	24
Trichlorofluoromethane				15 U	12 U	14 UJ	19 U	11 U
Vinyl chloride	10000	7000	10	15 U	15 (C)	14 U	19 U	11 U
Xylenes, total	67000		210000	83	48	14 U	19 U	5 J

B- Analyte detected in associated blank
J - Reported value estimated in quantity
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U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-16S	MA-MW-17S	MA-MW-18S	MA-MW-18S	MA-MW-19S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-16S-S	MA-MW-17S-S-4.5	MA-MW-18S-S-5	MA-MW-18S-S-5D	MA-MW-19S-S-3
Sample Date				10/29/2001	11/07/2001	11/06/2001	11/06/2001	11/06/2001
Sample Interval				6.5 - 16.5 ft	8 - 18 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	5.05 - 15.05 ft
CLP Sample ID				B0DF8	B0AY0RE	B0AX5	B0AX6	B0AX8
Chemical Name								
Volatiles Organic Compounds (ug/Kg)								
Acetone	100000		16000	83	14 UJ	23 J	17 UJ	13 UJ
Benzene	1000	13000	30	7 J	14 UJ	267 J (C)	190 J (C)	13 UJ
Bromoform	1000		800	0.9 J	14 UJ	12 UJ	11 UJ	13 UJ
Bromomethane	1000	1000000	200	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Carbon disulfide			32000	2 J	14 UJ	12 UJ	11 UJ	13 UJ
Carbon tetrachloride	1000		70	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Chlorobenzene	1000		1000	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Chloroethane				10 U	14 UJ	12 UJ	11 UJ	13 UJ
Chloroform	1000	28000	600	5 J	14 UJ	12 UJ	11 UJ	13 UJ
Chloromethane	10000			10 U	14 UJ	12 UJ	11 UJ	13 UJ
Cyclohexane				10 U	14 UJ	3 J	5 J	13 UJ
DBCP (1,2-dibromo-3-chloropropane)				10 U	14 UJ	12 UJ	11 UJ	13 UJ
Dibromochloromethane	1000		400	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Dibromoethane-1,2				10 U	14 UJ	12 UJ	11 UJ	13 UJ
Dichlorobenzene-1,2	50000		17000	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Dichlorobenzene-1,3	100000			10 U	14 UJ	12 UJ	11 UJ	13 UJ
Dichlorobenzene-1,4	100000		2000	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Dichlorobromomethane	1000		600	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Dichlorodifluoromethane				10 U	14 J	12 UJ	11 UJ	13 UJ
Dichloroethane-1,1	10000		23000	57	14 UJ	12 UJ	11 UJ	13 UJ
Dichloroethane-1,2	1000		20	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Dichloroethene-1,2 trans	50000		700	1 J	14 UJ	12 UJ	11 UJ	13 UJ
Dichloroethylene-1,1	10000		60	10 U	14 UJ	12 UJ	1 J	13 UJ
Dichloroethylene-1,2 cis	1000	1000000	400	70	14 UJ	12 UJ	11 UJ	13 UJ
Dichloropropane-1,2			30	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Dichloropropene-1,3 cis			4	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Dichloropropene-1,3 trans			4	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Ethylbenzene	100000	1000000	13000	10 U	14 UJ	12 UJ	1 J	13 UJ
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				1 J	14 UJ	12 UJ	11 UJ	13 UJ

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-16S	MA-MW-17S	MA-MW-18S	MA-MW-18S	MA-MW-19S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-16S-S	MA-MW-17S-S-4.5	MA-MW-18S-S-5	MA-MW-18S-S-5D	MA-MW-19S-S-3
Sample Date				10/29/2001	11/07/2001	11/06/2001	11/06/2001	11/06/2001
Sample Interval				6.5 - 16.5 ft	8 - 18 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	5.05 - 15.05 ft
CLP Sample ID				B0DF8	B0AY0RE	B0AX5	B0AX6	B0AX8
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				10 U	14 UJ	12 UJ	11 UJ	13 UJ
Isopropylbenzene				10 U	14 UJ	12 UJ	11 UJ	13 UJ
Methyl acetate				13	14 UJ	12 UJ	11 UJ	13 UJ
Methyl cyclohexane				10 U	14 UJ	12 UJ	11 UJ	13 UJ
Methyl ethyl ketone (2-butanone)	50000			430 J	14 UJ	7 J	6 J	13 UJ
Methyl isobutyl ketone (4-methyl-2-penta	50000			270 J	14 UJ	12 UJ	11 UJ	13 UJ
Methyl tertiary butyl ether (MTBE)				10 U	14 UJ	12 UJ	11 UJ	13 UJ
Methylene chloride	1000		20	10 U	15 J	12 UJ	11 UJ	13 UJ
Styrene	100000		4000	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Tetrachloroethane-1,1,2,2	1000		3	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Tetrachloroethylene	1000	6000	60	130 (C)	14 UJ	12 UJ	11 UJ	13 UJ
Toluene	500000	1000000	12000	19	14 UJ	12 UJ	3 J	13 UJ
Trichlorobenzene-1,2,4	100000		5000	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Trichloroethane-1,1,1	50000		2000	270 J	14 UJ	12 UJ	11 UJ	13 UJ
Trichloroethane-1,1,2	1000		20	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Trichloroethylene	1000	54000	60	38	14 UJ	12 UJ	11 UJ	13 UJ
Trichlorofluoromethane				10 U	14 UJ	12 UJ	11 UJ	13 UJ
Vinyl chloride	10000	7000	10	10 U	14 UJ	12 UJ	11 UJ	13 UJ
Xylenes; total	67000		210000	1 J	14 UJ	12 UJ	11 UJ	13 UJ

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-20S	MA-MW-21S	MA-SB-02	MA-SB-04	MA-SB-06
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-20S-S-7	MA-MW-21S-S-10	MA-SB02-S	MA-SB04-S	MA-SB06-S
Sample Date				11/07/2001	01/10/2002	10/18/2001	10/16/2001	10/15/2001
Sample Interval				7.9 - 17.9 ft	10 - 21 ft	4.5 - 5 ft	5 - 5.5 ft	5 - 5.5 ft
CLP Sample ID				B0AX7	B0G09	B0DD5	B0DA7	B0D97
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	3 J	10 UJ	24 UJ	91 J	2500 J
Benzene	1000	13000	30	12 UJ	10 U	15 U	3 J	2200 UJ
Bromoform	1000		800	12 UJ	10 U	15 U	10 UJ	2200 UJ
Bromomethane	1000	1000000	200	12 UJ	10 U	15 U	10 U	520 J (c)
Carbon disulfide			32000	12 UJ	10 U	8 J	12	2200 UJ
Carbon tetrachloride	1000		70	12 UJ	10 UJ	15 U	10 U	2200 UJ
Chlorobenzene	1000		1000	12 UJ	10 U	15 U	10 U	2200 UJ
Chloroethane				12 UJ	10 U	15 U	10 UJ	2200 UJ
Chloroform	1000	28000	600	12 UJ	10 U	15 U	10 U	2200 UJ
Chloromethane	10000			12 UJ	10 U	15 U	10 U	2200 UJ
Cyclohexane				12 UJ	10 U	15 U	41	2200 UJ
DBCP (1,2-dibromo-3-chloropropane)				12 UJ	10 U	15 U	10 UJ	2200 UJ
Dibromochloromethane	1000		400	12 UJ	10 U	15 U	10 U	2200 UJ
Dibromoethane-1,2				12 UJ	10 U	15 U	10 U	2200 UJ
Dichlorobenzene-1,2	50000		17000	12 UJ	10 U	15 U	2 J	2200 UJ
Dichlorobenzene-1,3	100000			12 UJ	10 U	15 U	10 U	2200 UJ
Dichlorobenzene-1,4	100000		2000	12 UJ	10 U	15 U	10 U	2200 UJ
Dichlorobromomethane	1000		600	12 UJ	10 U	15 U	10 U	2200 UJ
Dichlorodifluoromethane				12 UJ	10 U	15 U	10 U	2200 UJ
Dichloroethane-1,1	10000		23000	12 UJ	10 U	15 U	7 J	2200 UJ
Dichloroethane-1,2	1000		20	12 UJ	10 U	15 U	10 U	2200 UJ
Dichloroethene-1,2 trans	50000		700	12 UJ	10 U	15 U	13	2200 UJ
Dichloroethylene-1,1	10000		60	12 UJ	10 U	15 U	10 U	2200 UJ
Dichloroethylene-1,2 cis	1000	1000000	400	12 UJ	10 U	6 J	140	2200 UJ
Dichloropropane-1,2			30	12 UJ	10 U	15 U	10 U	2200 UJ
Dichloropropene-1,3 cis			4	12 UJ	10 U	15 U	10 U	2200 UJ
Dichloropropene-1,3 trans			4	12 UJ	10 U	15 U	10 U	2200 UJ
Ethylbenzene	100000	1000000	13000	12 UJ	10 U	15 U	5 J	2200 UJ
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				12 UJ	10 U	15 U	10 U	2200 UJ

B- Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-20S	MA-MW-21S	MA-SB-02	MA-SB-04	MA-SB-06
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-20S-S-7	MA-MW-21S-S-10	MA-SB02-S	MA-SB04-S	MA-SB06-S
Sample Date				11/07/2001	01/10/2002	10/18/2001	10/16/2001	10/15/2001
Sample Interval				7.9 - 17.9 ft	10 - 21 ft	4.5 - 5 ft	5 - 5.5 ft	5 - 5.5 ft
CLP Sample ID				B0AX7	B0G09	B0DD5	B0DA7	B0D97
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				12 UJ	10 U	15 U	10 UJ	2200 UJ
Isopropylbenzene				12 UJ	10 U	15 U	10 U	2200 UJ
Methyl acetate				12 UJ	10 U	15 U	10 U	2100 J
Methyl cyclohexane				12 UJ	10 U	15 U	28	2200 UJ
Methyl ethyl ketone (2-butanone)	50000			12 UJ	10 U	15 U	24	2200 UJ
Methyl isobutyl ketone (4-methyl-2-penta	50000			12 UJ	10 U	15 U	10 UJ	2200 UJ
Methyl tertiary butyl ether (MTBE)				12 UJ	10 U	15 U	10 U	2200 UJ
Methylene chloride	1000		20	12 UJ	10 U	15 U	10 U	2200 UJ
Styrene	100000		4000	12 UJ	10 U	15 U	10 U	2200 UJ
Tetrachloroethane-1,1,2,2	1000		3	12 UJ	10 U	15 U	10 U	2200 UJ
Tetrachloroethylene	1000	6000	60	12 UJ	10 U	470 J (C)	16	2200 UJ
Toluene	500000	1000000	12000	12 UJ	10 U	15 U	26	290 J
Trichlorobenzene-1,2,4	100000		5000	12 UJ	10 U	15 U	10 U	2200 UJ
Trichloroethane-1,1,1	50000		2000	12 UJ	10 U	4 J	10 U	2200 UJ
Trichloroethane-1,1,2	1000		20	12 UJ	10 U	15 U	10 U	2200 UJ
Trichloroethylene	1000	54000	60	12 UJ	10 U	9 J	7 J	2200 UJ
Trichlorofluoromethane				12 UJ	10 UJ	15 U	10 U	2200 UJ
Vinyl chloride	10000	7000	10	12 UJ	10 U	15 U	59 (C)	2200 UJ
Xylenes, total	67000		210000	12 UJ	10 U	15 U	31	2200 UJ

B- Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-08	MA-SB-09	MA-SB-106	MA-SB-108	MA-SB-11
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB08-S	MA-SB09-S	MA-SB106-S	MA-SB108-S	MA-SB11-S
Sample Date				10/16/2001	10/15/2001	10/22/2001	10/22/2001	10/15/2001
Sample Interval				6.5 - 7 ft	3 - 3.5 ft	5 - 5.5 ft	4.5 - 5 ft	N/A
CLP Sample ID				B0DA8	B0D90	B0DG8	B0DG0	B0D92
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	170 J	1600 U	12 U	3 J	390 J
Benzene	1000	13000	30	260 (C)	1600 U	18	13 U	1300 U
Bromoform	1000		800	14 UJ	1600 U	12 U	13 U	1300 U
Bromomethane	1000	1000000	200	14 U	1600 U	12 U	13 U	1300 U
Carbon disulfide			32000	2 J	1600 U	3 J	13 U	1300 U
Carbon tetrachloride	1000		70	14 U	1600 U	12 U	13 U	1300 U
Chlorobenzene	1000		1000	14 U	1600 U	12 U	13 U	1300 U
Chloroethane				20 J	1600 U	12 U	13 U	1300 U
Chloroform	1000	28000	600	14 U	1600 U	12 U	13 U	1300 U
Chloromethane	10000			14 U	1600 U	12 U	13 U	1300 U
Cyclohexane				130	1600 U	7 J	13 U	1300 U
DBCP (1,2-dibromo-3-chloropropane)				14 UJ	1600 U	12 U	13 U	1300 U
Dibromochloromethane	1000		400	14 U	1600 U	12 U	13 U	1300 U
Dibromoethane-1,2				14 U	1600 U	12 U	13 U	1300 U
Dichlorobenzene-1,2	50000		17000	14 U	1600 U	12 U	13 U	1300 U
Dichlorobenzene-1,3	100000			14 U	1600 U	12 U	13 U	1300 U
Dichlorobenzene-1,4	100000		2000	14 U	1600 U	12 U	13 U	1300 U
Dichlorobromomethane	1000		600	14 U	1600 U	12 U	13 U	1300 U
Dichlorodifluoromethane				14 U	1600 U	12 U	13 U	1300 U
Dichloroethane-1,1	10000		23000	14	1600 U	12 U	13 U	1300 U
Dichloroethane-1,2	1000		20	14 U	1600 U	12 U	13 U	1300 U
Dichloroethene-1,2 trans	50000		700	5 J	1600 U	12 U	13 U	1600 (C)
Dichloroethylene-1,1	10000		60	14 U	1600 U	12 U	13 U	130 J (C)
Dichloroethylene-1,2 cis	1000	1000000	400	29	1600 U	12 U	13 U	13000 (AC)
Dichloropropane-1,2			30	14 U	1600 U	12 U	13 U	1300 U
Dichloropropene-1,3 cis			4	14 U	1600 U	12 U	13 U	1300 U
Dichloropropene-1,3 trans			4	14 U	1600 U	12 U	13 U	1300 U
Ethylbenzene	100000	1000000	13000	120	3500	1 J	13 U	1300 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				14 U	1600 U	12 U	13 U	1300 U

B- Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

302710

Station ID	(A)	(B)	(C)	MA-SB-08	MA-SB-09	MA-SB-106	MA-SB-108	MA-SB-11
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB08-S	MA-SB09-S	MA-SB106-S	MA-SB108-S	MA-SB11-S
Sample Date			F20	10/16/2001	10/15/2001	10/22/2001	10/22/2001	10/15/2001
Sample Interval				6.5 - 7 ft	3 - 3.5 ft	5 - 5.5 ft	4.5 - 5 ft	N/A
CLP Sample ID				B0DA8	B0D90	B0DG8	B0DG0	B0D92
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				14 UJ	1600 U	12 U	13 U	1300 U
Isopropylbenzene				11 J	7200	12 U	13 U	140 J
Methyl acetate				14 U	1600 U	12 U	13 U	870 J
Methyl cyclohexane				110	1600 U	5 J	13 U	1300 U
Methyl ethyl ketone (2-butanone)	50000			49	1600 U	12 U	13 U	1300 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			14 UJ	1600 U	12 U	13 U	1300 U
Methyl tertiary butyl ether (MTBE)				14 U	1600 U	12 U	13 U	1300 U
Methylene chloride	1000		20	14 U	1600 U	12 U	13 U	1300 U
Styrene	100000		4000	14 U	1600 U	12 U	13 U	1300 U
Tetrachloroethane-1,1,2,2	1000		3	14 U	1600 U	12 U	13 U	1300 U
Tetrachloroethylene	1000	6000	60	14 U	1600 U	12 U	13 U	1300 U
Toluene	500000	1000000	12000	79	470 J	13	13 U	1300 U
Trichlorobenzene-1,2,4	100000		5000	14 U	1200 J	12 U	13 U	1300 U
Trichloroethane-1,1,1	50000		2000	2 J	1600 U	12 U	13 U	1300 U
Trichloroethane-1,1,2	1000		20	14 U	1600 U	12 U	13 U	1300 U
Trichloroethylene	1000	54000	60	1 J	1600 U	12 U	13 U	630000 (ABC)
Trichlorofluoromethane				14 U	1600 U	12 U	13 U	1300 U
Vinyl chloride	10000	7000	10	14 U	1600 U	12 U	13 U	480 J (C)
Xylenes, total	67000		210000	250	22000	2 J	13 U	250 J

B- Analyte detected in associated blank
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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-112	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB112-S	MA-SB118-S	MA-SB120-S	MA-SB122-S	MA-SB124-S
Sample Date			F20	10/17/2001	10/18/2001	10/19/2001	10/16/2001	10/17/2001
Sample Interval				4 - 4.5 ft	4.5 - 5 ft	2 - 2.5 ft	8 - 8.5 ft	4 - 4.5 ft
CLP Sample ID				B0DC2	B0DD6	B0DE7	B0DB2	B0DB5
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	84 J	69 UJ	13 UJ	250 J	180 J
Benzene	1000	13000	30	2 J	15 U	13 UJ	6 J	12 U
Bromoform	1000		800	18 UJ	15 U	13 UJ	15 UJ	12 U
Bromomethane	1000	1000000	200	18 U	15 U	13 UJ	15 U	12 U
Carbon disulfide			32000	21	15 U	13 UJ	19	6 J
Carbon tetrachloride	1000		70	18 U	15 U	13 UJ	15 U	12 U
Chlorobenzene	1000		1000	18 U	15 U	13 UJ	15 U	12 U
Chloroethane				18 UJ	15 U	13 UJ	15 UJ	12 U
Chloroform	1000	28000	600	18 U	15 U	13 UJ	15 U	10 J
Chloromethane	10000			18 U	15 U	13 UJ	15 U	12 U
Cyclohexane				18 U	15 U	13 UJ	12 J	12 U
DBCP (1,2-dibromo-3-chloropropane)				18 UJ	15 U	13 UJ	15 UJ	12 U
Dibromochloromethane	1000		400	18 U	15 U	13 UJ	15 U	12 U
Dibromoethane-1,2				18 U	15 U	13 UJ	15 U	12 U
Dichlorobenzene-1,2	50000		17000	18 U	15 U	13 UJ	15 U	6 J
Dichlorobenzene-1,3	100000			18 U	15 U	13 UJ	15 U	12 U
Dichlorobenzene-1,4	100000		2000	18 U	15 U	13 UJ	15 U	2 J
Dichlorobromomethane	1000		600	18 U	15 U	13 UJ	15 U	12 U
Dichlorodifluoromethane				18 U	15 U	13 UJ	15 U	12 U
Dichloroethane-1,1	10000		23000	18 U	7 J	13 UJ	15 U	12 U
Dichloroethane-1,2	1000		20	18 U	15 U	13 UJ	15 U	12 UJ
Dichloroethene-1,2 trans	50000		700	18 U	15 U	13 UJ	15 U	12 U
Dichloroethylene-1,1	10000		60	18 U	15 U	13 UJ	15 U	12 U
Dichloroethylene-1,2 cis	1000	1000000	400	7 J	15	13 UJ	9 J	3 J
Dichloropropane-1,2			30	18 U	15 U	13 UJ	15 U	12 U
Dichloropropene-1,3 cis			4	18 U	15 U	13 UJ	15 U	12 U
Dichloropropene-1,3 trans			4	18 U	15 U	13 UJ	15 U	12 U
Ethylbenzene	100000	1000000	13000	5 J	15 U	13 UJ	7 J	2 J
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				18 U	15 U	13 UJ	15 U	12 U

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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-112	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB112-S	MA-SB118-S	MA-SB120-S	MA-SB122-S	MA-SB124-S
Sample Date				10/17/2001	10/18/2001	10/19/2001	10/16/2001	10/17/2001
Sample Interval				4 - 4.5 ft	4.5 - 5 ft	2 - 2.5 ft	8 - 8.5 ft	4 - 4.5 ft
CLP Sample ID				B0DC2	B0DD6	B0DE7	B0DB2	B0DB5
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				18 UJ	15 U	13 UJ	15 UJ	12 U
Isopropylbenzene				18 U	15 U	13 UJ	5 J	12 U
Methyl acetate				18 U	15 U	13 UJ	15 U	12 U
Methyl cyclohexane				18 U	15 U	13 UJ	20	12 U
Methyl ethyl ketone (2-butanone)	50000			20	15	13 UJ	20	28
Methyl isobutyl ketone (4-methyl-2-penta	50000			18 UJ	15 U	13 UJ	15 UJ	12 U
Methyl tertiary butyl ether (MTBE)				18 U	15 U	13 UJ	15 U	12 UJ
Methylene chloride	1000		20	18 U	15 U	13 UJ	15 U	43 (C)
Styrene	100000		4000	18 U	15 U	13 UJ	15 U	9 J
Tetrachloroethane-1,1,2,2	1000		3	18 U	15 U	13 UJ	15 U	12 U
Tetrachloroethylene	1000	6000	60	270 (C)	320 J (C)	4 J	4 J	58
Toluene	500000	1000000	12000	12 J	17	13 UJ	37	19
Trichlorobenzene-1,2,4	100000		5000	18 U	15 U	13 UJ	15 U	12 U
Trichloroethane-1,1,1	50000		2000	5 J	12 J	13 UJ	15 U	4 J
Trichloroethane-1,1,2	1000		20	18 U	15 U	13 UJ	15 U	12 U
Trichloroethylene	1000	54000	60	71 (C)	17	13 UJ	3 J	33
Trichlorofluoromethane				18 U	15 U	13 UJ	15 U	12 U
Vinyl chloride	10000	7000	10	18 U	15 U	13 UJ	12 J (C)	12 U
Xylenes, total	67000		210000	21	15 U	13 UJ	38	17

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB13-S	MA-SB130-S	MA-SB131-S	MA-SB14-S	MA-SB29-S-5.0
Sample Date				10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				8.5 - 9 ft	5 - 5.5 ft	5 - 5.5 ft	9 - 9.5 ft	5 - 5.5 ft
CLP Sample ID				B0DF6	B0DC1	B0DF1	B0D98	B0DX7
Chemical Name								
Volatiles Organic Compounds (ug/Kg)								
Acetone	100000		16000	110 J	320 J	110 J	40 J	15 UJ
Benzene	1000	13000	30	16 UJ	4 J	4 J	32 U	14 U
Bromoform	1000		800	16 UJ	27 UJ	13 U	32 U	14 U
Bromomethane	1000	1000000	200	16 UJ	27 U	13 U	32 U	14 U
Carbon disulfide			32000	16 UJ	110	45	32 U	14 U
Carbon tetrachloride	1000		70	16 UJ	27 U	13 U	32 U	14 U
Chlorobenzene	1000		1000	16 UJ	27 U	13 U	32 U	14 U
Chloroethane				16 UJ	27 UJ	13 U	32 U	14 U
Chloroform	1000	28000	600	16 UJ	27 U	13 U	32 U	14 U
Chloromethane	10000			16 UJ	27 U	13 U	32 U	14 U
Cyclohexane				16 UJ	27 U	13 U	32 U	14 U
DBCP (1,2-dibromo-3-chloropropane)				16 UJ	27 UJ	13 UJ	32 U	14 U
Dibromochloromethane	1000		400	16 UJ	27 U	13 U	32 U	14 U
Dibromoethane-1,2				16 UJ	27 U	13 U	32 U	14 U
Dichlorobenzene-1,2	50000		17000	16 UJ	27 U	13 U	32 U	14 U
Dichlorobenzene-1,3	100000			16 UJ	27 U	13 U	32 U	14 U
Dichlorobenzene-1,4	100000		2000	16 UJ	27 U	13 U	32 U	14 U
Dichlorobromomethane	1000		600	16 UJ	27 U	13 U	32 U	14 U
Dichlorodifluoromethane				16 UJ	27 U	13 U	32 U	14 UJ
Dichloroethane-1,1	10000		23000	4 J	27 U	13 U	5 J	14 U
Dichloroethane-1,2	1000		20	16 UJ	27 U	13 U	32 U	14 U
Dichloroethene-1,2 trans	50000		700	16 UJ	27 U	13 U	32 U	14 U
Dichloroethylene-1,1	10000		60	16 UJ	27 U	13 U	32 U	14 U
Dichloroethylene-1,2 cis	1000	1000000	400	7 J	27 U	2 J	60	14 U
Dichloropropane-1,2			30	16 UJ	27 U	13 U	32 U	14 U
Dichloropropene-1,3 cis			4	16 UJ	27 U	13 U	32 U	14 U
Dichloropropene-1,3 trans			4	16 UJ	27 U	13 U	32 U	14 U
Ethylbenzene	100000	1000000	13000	16 UJ	2400 J	13 U	32 U	14 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				16 UJ	27 U	13 U	32 U	14 U

B - Analyte detected in associated blank
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R - Rejected Result
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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB13-S	MA-SB130-S	MA-SB131-S	MA-SB14-S	MA-SB29-S-5.0
Sample Date				10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				8.5 - 9 ft	5 - 5.5 ft	5 - 5.5 ft	9 - 9.5 ft	5 - 5.5 ft
CLP Sample ID				B0DF6	B0DC1	B0DF1	B0D98	B0DX7
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				16 UJ	27 UJ	13 UJ	32 U	14 U
Isopropylbenzene				16 UJ	47	13 U	32 U	14 U
Methyl acetate				16 UJ	27 U	13 U	32 U	14 U
Methyl cyclohexane				16 UJ	27 U	13 U	32 U	14 U
Methyl ethyl ketone (2-butanone)	50000			21 J	99	13 U	86	14 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			16 UJ	27 UJ	13 UJ	32 U	14 U
Methyl tertiary butyl ether (MTBE)				16 UJ	27 U	13 U	32 U	14 U
Methylene chloride	1000		20	16 UJ	110 (C)	13 U	32 U	17 U
Styrene	100000		4000	16 UJ	27 U	13 U	32 U	14 U
Tetrachloroethane-1,1,2,2	1000		3	16 UJ	27 U	13 U	32 U	14 U
Tetrachloroethylene	1000	6000	60	3 J	6 J	6 J	8 J	14 U
Toluene	500000	1000000	12000	16 UJ	16 J	13 U	6 J	14 U
Trichlorobenzene-1,2,4	100000		5000	16 UJ	27 U	13 U	32 U	14 U
Trichloroethane-1,1,1	50000		2000	16 UJ	6 J	13 U	32 U	14 U
Trichloroethane-1,1,2	1000		20	16 UJ	27 U	13 U	32 U	14 U
Trichloroethylene	1000	54000	60	3 J	27 U	13	220 (C)	14 U
Trichlorofluoromethane				16 UJ	27 U	13 U	32 U	14 U
Vinyl chloride	10000	7000	10	16 UJ	27 U	13 U	32 U	14 U
Xylenes, total	67000		210000	16 UJ	6200	13 U	32 U	14 U

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-60
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB31-S	MA-SB42-S	MA-SB47-S	MA-SB56-S	MA-SB60-S
Sample Date				10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				6.5 - 7 ft	4.5 - 5 ft	4.5 - 5 ft	8.5 - 9 ft	6.5 - 7 ft
CLP Sample ID				B0DC3	B0DC7	B0DC8	B0DA1	B0DA2
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	1700 J	23 UJ	1700 U	97 J	1700 UJ
Benzene	1000	13000	30	16 U	12 U	1700 U	76 J (C)	700 J (C)
Bromoform	1000		800	16 UJ	12 U	1700 U	13 U	1700 U
Bromomethane	1000	1000000	200	16 U	12 U	1700 U	13 U	1700 U
Carbon disulfide			32000	16 U	7 J	1700 U	24	1700 U
Carbon tetrachloride	1000		70	16 U	12 U	1700 U	13 U	1700 U
Chlorobenzene	1000		1000	16 U	12 U	1700 U	13 U	170 J
Chloroethane				16 UJ	12 U	1700 U	13 U	1700 UJ
Chloroform	1000	28000	600	16 U	12 U	280 J	13 U	1700 U
Chloromethane	10000			16 U	12 U	1700 U	13 U	1700 U
Cyclohexane				15 J	12 U	1700 U	95	1700 U
DBCP (1,2-dibromo-3-chloropropane)				16 UJ	12 UJ	1700 U	13 U	1700 U
Dibromochloromethane	1000		400	16 U	12 U	1700 U	13 U	1700 U
Dibromoethane-1,2				16 U	12 U	1700 U	13 U	1700 U
Dichlorobenzene-1,2	50000		17000	16 U	12 U	1700 U	13 U	1700 U
Dichlorobenzene-1,3	100000			16 U	12 U	1700 U	13 U	1700 U
Dichlorobenzene-1,4	100000		2000	16 U	12 U	1700 U	13 U	1700 U
Dichlorobromomethane	1000		600	16 U	12 U	1700 U	13 U	1700 U
Dichlorodifluoromethane				16 U	12 U	1700 U	13 U	1700 U
Dichloroethane-1,1	10000		23000	16 U	12 U	220 J	13 U	1700 U
Dichloroethane-1,2	1000		20	16 U	12 U	1700 U	13 U	1700 U
Dichloroethene-1,2 trans	50000		700	16 U	12 U	1700 U	13 U	1700 U
Dichloroethylene-1,1	10000		60	16 U	12 U	1700 U	13 U	1700 U
Dichloroethylene-1,2 cis	1000	1000000	400	16 U	2 J	11000 J (AC)	6 J	1700 U
Dichloropropane-1,2			30	16 U	12 U	1700 U	13 U	1700 U
Dichloropropene-1,3 cis			4	16 U	12 U	1700 U	13 U	1700 U
Dichloropropene-1,3 trans			4	16 U	12 U	1700 U	13 U	1700 U
Ethylbenzene	100000	1000000	13000	16 U	12 U	1700 U	84	9800
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				16 U	12 U	1700 U	13 U	1700 U

B- Analyte detected in associated blank
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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

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Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-60
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB31-S	MA-SB42-S	MA-SB47-S	MA-SB56-S	MA-SB60-S
Sample Date				10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				6.5 - 7 ft	4.5 - 5 ft	4.5 - 5 ft	8.5 - 9 ft	6.5 - 7 ft
CLP Sample ID				B0DC3	B0DC7	B0DC8	B0DA1	B0DA2
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				16 UJ	12 UJ	1700 U	13 U	1700 U
Isopropylbenzene				16 U	12 U	1700 U	13	1400 J
Methyl acetate				16 U	12 U	1700 U	13 U	1700 U
Methyl cyclohexane				11 J	12 U	1700 U	80	3600
Methyl ethyl ketone (2-butanone)	50000			220	12 U	1700 U	23	1700 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			55 J	12 UJ	1700 U	13 U	1700 U
Methyl tertiary butyl ether (MTBE)				16 U	12 U	1700 UJ	13 U	1700 UJ
Methylene chloride	1000		20	16 U	12 U	1700 U	13 U	1700 U
Styrene	100000		4000	16 U	12 U	1700 U	13 U	1700 U
Tetrachloroethane-1,1,2,2	1000		3	16 U	12 U	1700 U	13 U	1700 U
Tetrachloroethylene	1000	6000	60	16 U	450 J (C)	110000 (ABC)	13	1700 U
Toluene	500000	1000000	12000	2 J	12 U	1700 U	590 J	2600
Trichlorobenzene-1,2,4	100000		5000	16 U	12 U	1700 UJ	13 U	1700 U
Trichloroethane-1,1,1	50000		2000	16 U	7 J	250 J	13 U	1700 U
Trichloroethane-1,1,2	1000		20	16 U	12 U	1700 U	13 U	1700 U
Trichloroethylene	1000	54000	60	16 U	32	20000 (AC)	63 (C)	1700 U
Trichlorofluoromethane				16 U	12 U	1700 U	13 U	1700 U
Vinyl chloride	10000	7000	10	16 U	12 U	1700 U	13 U	1700 U
Xylenes, total	67000		210000	4 J	12 U	1700 U	380	54000

B- Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68	MA-SB-69
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB62-S-5.0	MA-SB66-S-4.5	MA-SB67-S-5.0	MA-SB68-S-4.5	MA-SB69-S-2.0
Sample Date				12/12/2001	12/13/2001	12/12/2001	12/13/2001	12/12/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	2 - 2.5 ft
CLP Sample ID				B0DX2	B0FS8	B0DX3	B0DY8	B0DW8
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	220 UJ	4 J	28 UJ	14	29 UJ
Benzene	1000	13000	30	46 UJ	18 U	12 U	11 U	15 U
Bromoform	1000		800	46 UJ	18 U	12 U	11 U	15 U
Bromomethane	1000	1000000	200	46 UJ	18 U	12 U	11 U	15 U
Carbon disulfide			32000	15 J	18 U	12 U	11 U	15 U
Carbon tetrachloride	1000		70	46 UJ	18 U	12 U	11 U	15 U
Chlorobenzene	1000		1000	46 UJ	18 U	12 U	11 U	15 U
Chloroethane				46 UJ	18 U	12 U	11 U	15 U
Chloroform	1000	28000	600	46 UJ	18 U	12 U	11 U	15 U
Chloromethane	10000			46 UJ	18 U	12 U	11 U	15 U
Cyclohexane				46 UJ	18 U	12 U	11 U	15 U
DBCP (1,2-dibromo-3-chloropropane)				46 UJ	18 U	12 U	11 U	15 U
Dibromochloromethane	1000		400	46 UJ	18 U	12 U	11 U	15 U
Dibromoethane-1,2				46 UJ	18 U	12 U	11 U	15 U
Dichlorobenzene-1,2	50000		17000	46 UJ	18 U	12 U	11 U	15 U
Dichlorobenzene-1,3	100000			46 UJ	18 U	12 U	11 U	15 U
Dichlorobenzene-1,4	100000		2000	46 UJ	18 U	12 U	11 U	15 U
Dichlorobromomethane	1000		600	46 UJ	18 U	12 U	11 U	15 U
Dichlorodifluoromethane				46 UJ	18 U	12 UJ	11 U	15 UJ
Dichloroethane-1,1	10000		23000	46 UJ	18 U	12 U	11 U	15 U
Dichloroethane-1,2	1000		20	46 UJ	18 U	12 U	11 U	15 U
Dichloroethene-1,2 trans	50000		700	46 UJ	18 U	12 U	11 U	15 U
Dichloroethylene-1,1	10000		60	46 UJ	18 U	12 U	11 U	15 U
Dichloroethylene-1,2 cis	1000	1000000	400	46 UJ	18 U	12 U	11 U	15 U
Dichloropropane-1,2			30	46 UJ	18 U	12 U	11 U	15 U
Dichloropropene-1,3 cis			4	46 UJ	18 U	12 U	11 U	15 U
Dichloropropene-1,3 trans			4	46 UJ	18 U	12 U	11 U	15 U
Ethylbenzene	100000	1000000	13000	46 UJ	18 U	12 U	11 U	15 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				46 UJ	18 U	12 U	11 U	15 U

B- Analyte detected in associated blank
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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68	MA-SB-69
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB62-S-5.0	MA-SB66-S-4.5	MA-SB67-S-5.0	MA-SB68-S-4.5	MA-SB69-S-2.0
Sample Date				12/12/2001	12/13/2001	12/12/2001	12/13/2001	12/12/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	2 - 2.5 ft
CLP Sample ID				B0DX2	B0FS8	B0DX3	B0DY8	B0DW8
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				46 UJ	18 U	12 U	11 U	15 U
Isopropylbenzene				46 UJ	18 U	12 U	11 U	15 U
Methyl acetate				46 UJ	18 U	12 U	11 U	15 U
Methyl cyclohexane				46 UJ	18 U	12 U	11 U	15 U
Methyl ethyl ketone (2-butanone)	50000			74 J	18 U	12 U	11 U	15 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			46 UJ	18 U	12 U	11 U	15 U
Methyl tertiary butyl ether (MTBE)				46 UJ	18 U	12 U	11 U	15 U
Methylene chloride	1000		20	49 UJ	18 U	12 U	17 U	15 U
Styrene	100000		4000	46 UJ	18 U	12 U	11 U	15 U
Tetrachloroethane-1,1,2,2	1000		3	46 UJ	18 U	12 U	11 U	15 U
Tetrachloroethylene	1000	6000	60	46 UJ	18 U	12 U	11 U	15 U
Toluene	500000	1000000	12000	46 UJ	18 U	12 U	11 U	15 U
Trichlorobenzene-1,2,4	100000		5000	46 UJ	18 U	12 U	11 U	15 U
Trichloroethane-1,1,1	50000		2000	46 UJ	18 U	12 U	11 U	15 U
Trichloroethane-1,1,2	1000		20	46 UJ	18 U	12 U	11 U	15 U
Trichloroethylene	1000	54000	60	46 UJ	18 U	12 U	11 U	15 U
Trichlorofluoromethane				46 UJ	18 U	12 U	11 U	15 U
Vinyl chloride	10000	7000	10	46 UJ	18 U	12 U	11 U	15 U
Xylenes, total	67000		210000	46 UJ	18 U	12 U	11 U	15 U

B- Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77	MA-SB-78
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB71-S-6.0	MA-SB72-S-6.0	MA-SB75-S-4.5	MA-SB77-S-5.0	MA-SB78-S-6.0
Sample Date				12/13/2001	12/13/2001	12/12/2001	12/12/2001	12/13/2001
Sample Interval				6 - 6.5 ft	6 - 6.5 ft	4.5 - 5 ft	5 - 5.5 ft	6 - 6.5 ft
CLP Sample ID				B0DZ4	B0DZ0	B0DX0	B0DX5	B0DY6
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	13 J	21	30 UJ	10 UJ	11
Benzene	1000	13000	30	16 U	12 U	3 J	10 U	10 U
Bromoform	1000		800	16 U	12 U	17 U	10 U	10 U
Bromomethane	1000	1000000	200	16 U	12 U	17 U	10 U	10 U
Carbon disulfide			32000	16 U	12 U	17 U	10 U	10 U
Carbon tetrachloride	1000		70	16 U	12 U	17 U	10 U	10 U
Chlorobenzene	1000		1000	16 U	12 U	17 U	10 U	10 U
Chloroethane				16 U	12 U	17 U	10 U	10 U
Chloroform	1000	28000	600	16 U	12 U	17 U	10 U	10 U
Chloromethane	10000			16 U	12 U	17 U	10 U	10 U
Cyclohexane				16 U	12 U	17 U	10 U	10 U
DBCP (1,2-dibromo-3-chloropropane)				16 U	12 U	17 U	10 U	10 U
Dibromochloromethane	1000		400	16 U	12 U	17 U	10 U	10 U
Dibromoethane-1,2				16 U	12 U	17 U	10 U	10 U
Dichlorobenzene-1,2	50000		17000	16 U	12 U	17 U	10 U	10 U
Dichlorobenzene-1,3	100000			16 U	12 U	17 U	10 U	10 U
Dichlorobenzene-1,4	100000		2000	16 U	12 U	17 U	10 U	10 U
Dichlorobromomethane	1000		600	16 U	12 U	17 U	10 U	10 U
Dichlorodifluoromethane				16 U	12 U	17 UJ	10 UJ	10 U
Dichloroethane-1,1	10000		23000	16 U	12 U	17 U	10 U	10 U
Dichloroethane-1,2	1000		20	16 U	12 U	17 U	10 U	10 U
Dichloroethene-1,2 trans	50000		700	16 U	12 U	17 U	10 U	10 U
Dichloroethylene-1,1	10000		60	16 U	12 U	17 U	10 U	10 U
Dichloroethylene-1,2 cis	1000	1000000	400	16 U	12 U	17 U	10 U	10 U
Dichloropropane-1,2			30	16 U	12 U	17 U	10 U	10 U
Dichloropropene-1,3 cis			4	16 U	12 U	17 U	10 U	10 U
Dichloropropene-1,3 trans			4	16 U	12 U	17 U	10 U	10 U
Ethylbenzene	100000	1000000	13000	16 U	12 U	17 U	10 U	10 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				16 U	12 U	17 U	10 U	10 U

B - Analyte detected in associated blank
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U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77	MA-SB-78
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB71-S-6.0	MA-SB72-S-6.0	MA-SB75-S-4.5	MA-SB77-S-5.0	MA-SB78-S-6.0
Sample Date				12/13/2001	12/13/2001	12/12/2001	12/12/2001	12/13/2001
Sample Interval				6 - 6.5 ft	6 - 6.5 ft	4.5 - 5 ft	5 - 5.5 ft	6 - 6.5 ft
CLP Sample ID				B0DZ4	B0DZ0	B0DX0	B0DX5	B0DY6
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				16 U	12 U	17 U	10 U	10 U
Isopropylbenzene				16 U	12 U	17 U	10 U	10 U
Methyl acetate				16 U	12 U	17 U	10 U	10 U
Methyl cyclohexane				16 U	12 U	2 J	10 U	10 U
Methyl ethyl ketone (2-butanone)	50000			16 U	12 U	17 U	10 U	10 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			16 U	12 U	17 U	10 U	10 U
Methyl tertiary butyl ether (MTBE)				16 U	12 U	17 U	10 U	10 U
Methylene chloride	1000		20	16 U	12 U	17 U	12 U	10 U
Styrene	100000		4000	16 U	12 U	17 U	10 U	10 U
Tetrachloroethane-1,1,2,2	1000		3	16 U	12 U	17 U	10 U	10 U
Tetrachloroethylene	1000	6000	60	16 U	12 U	17 U	10 U	10 U
Toluene	500000	1000000	12000	16 U	12 U	17 U	10 U	10 U
Trichlorobenzene-1,2,4	100000		5000	16 U	12 U	17 U	10 U	10 U
Trichloroethane-1,1,1	50000		2000	16 U	12 U	17 U	10 U	10 U
Trichloroethane-1,1,2	1000		20	16 U	12 U	17 U	10 U	10 U
Trichloroethylene	1000	54000	60	16 U	12 U	17 U	10 U	10 U
Trichlorofluoromethane				16 U	12 U	17 U	10 U	10 U
Vinyl chloride	10000	7000	10	16 U	12 U	17 U	10 U	10 U
Xylenes, total	67000		210000	16 U	12 U	17 U	10 U	10 U

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-79	MA-SB-81	MA-SB-82	MA-SB-85	MA-SB-96
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB79-S-5.0	MA-SB81-S	MA-SB82-S	MA-SB85-S-6.0	MA-SB96-S
Sample Date				12/13/2001	10/18/2001	10/19/2001	12/17/2001	10/22/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	4 - 4.5 ft	6 - 6.5 ft	4.5 - 5 ft
CLP Sample ID				B0DZ2	B0DE0	B0DE3	B0FW7	B0DG6
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	15	24 UJ	17 J	7 J	5 J
Benzene	1000	13000	30	10 U	11 U	19 U	10 U	14 U
Bromoform	1000		800	10 U	11 U	19 U	10 U	14 U
Bromomethane	1000	1000000	200	10 U	11 U	19 U	10 U	14 U
Carbon disulfide			32000	10 U	11 U	19 U	10 U	14 U
Carbon tetrachloride	1000		70	10 U	11 U	19 U	10 U	14 U
Chlorobenzene	1000		1000	10 U	11 U	19 U	10 U	14 U
Chloroethane				10 U	11 U	19 U	10 U	14 U
Chloroform	1000	28000	600	10 U	11 U	19 U	10 U	14 U
Chloromethane	10000			10 U	11 U	19 U	10 U	14 U
Cyclohexane				10 U	11 U	19 U	10 U	2 J
DBCP (1,2-dibromo-3-chloropropane)				10 U	11 U	19 U	10 U	14 U
Dibromochloromethane	1000		400	10 U	11 U	19 U	10 U	14 U
Dibromoethane-1,2				10 U	11 U	19 U	10 U	14 U
Dichlorobenzene-1,2	50000		17000	10 U	11 U	19 U	10 U	14 U
Dichlorobenzene-1,3	100000			10 U	11 U	19 U	10 U	14 U
Dichlorobenzene-1,4	100000		2000	10 U	11 U	19 U	10 U	14 U
Dichlorobromomethane	1000		600	10 U	11 U	19 U	10 U	14 U
Dichlorodifluoromethane				10 U	11 U	9 U	10 U	14 U
Dichloroethane-1,1	10000		23000	10 U	11 U	19 U	10 U	14 U
Dichloroethane-1,2	1000		20	10 U	11 U	19 U	10 U	14 U
Dichloroethene-1,2 trans	50000		700	10 U	11 U	19 U	10 U	14 U
Dichloroethylene-1,1	10000		60	10 U	11 U	19 U	10 U	14 U
Dichloroethylene-1,2 cis	1000	1000000	400	10 U	11 U	19 U	10 U	14 U
Dichloropropane-1,2			30	10 U	11 U	19 U	10 U	14 U
Dichloropropene-1,3 cis			4	10 U	11 U	19 U	10 U	14 U
Dichloropropene-1,3 trans			4	10 U	11 U	19 U	10 U	14 U
Ethylbenzene	100000	1000000	13000	10 U	11 U	19 U	10 U	14 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				10 U	11 U	19 U	10 U	14 U

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J - Reported value estimated in quantity
R - Rejected Result
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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
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Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-79	MA-SB-81	MA-SB-82	MA-SB-85	MA-SB-96
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB79-S-5.0	MA-SB81-S	MA-SB82-S	MA-SB85-S-6.0	MA-SB96-S
Sample Date				12/13/2001	10/18/2001	10/19/2001	12/17/2001	10/22/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	4 - 4.5 ft	6 - 6.5 ft	4.5 - 5 ft
CLP Sample ID				B0DZ2	B0DE0	B0DE3	B0FW7	B0DG6
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				10 U	11 U	19 U	10 U	14 U
Isopropylbenzene				10 U	11 U	19 U	10 U	14 U
Methyl acetate				10 U	11 U	19 U	10 U	14 U
Methyl cyclohexane				10 U	11 U	19 U	10 U	3 J
Methyl ethyl ketone (2-butanone)	50000			10 U	11 U	19 U	10 U	14 UJ
Methyl isobutyl ketone (4-methyl-2-penta	50000			10 U	11 U	19 U	10 U	14 U
Methyl tertiary butyl ether (MTBE)				10 U	11 U	19 U	10 U	14 U
Methylene chloride	1000		20	10 U	11 U	19 U	12 U	14 U
Styrene	100000		4000	10 U	11 U	19 U	10 U	14 U
Tetrachloroethane-1,1,2,2	1000		3	10 U	11 U	19 U	10 U	14 U
Tetrachloroethylene	1000	6000	60	10 U	41	20	10 U	14 U
Toluene	500000	1000000	12000	10 U	11 U	19 U	10 U	2 J
Trichlorobenzene-1,2,4	100000		5000	10 U	11 U	19 U	10 U	14 UJ
Trichloroethane-1,1,1	50000		2000	10 U	11 U	19 U	10 U	14 U
Trichloroethane-1,1,2	1000		20	10 U	11 U	19 U	10 U	14 U
Trichloroethylene	1000	54000	60	10 U	2 J	19 U	10 U	14 U
Trichlorofluoromethane				10 U	11 U	19 U	10 UJ	14 U
Vinyl chloride	10000	7000	10	10 U	11 U	19 U	10 U	14 U
Xylenes, total	67000		210000	10 U	11 U	19 U	10 U	14 U

B- Analyte detected in associated blank
J - Reported value estimated in quantity
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U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-97	MA-SB-98	MA-SO-201	MA-SO-202	MA-SO-203
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB97-S	MA-SB98-S	MA-SO201-S	MA-SO202-S-13	MA-SO203-S
Sample Date				10/22/2001	10/22/2001	10/17/2001	12/14/2001	10/19/2001
Sample Interval				4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	13 - 13.5 ft	4 - 4.5 ft
CLP Sample ID				B0DG4	B0DH1	B0DB6	B0FT1	B0DF2
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	2 J	15 U	6300 U	10 UJ	11 UJ
Benzene	1000	13000	30	10 U	15 U	31000 (ABC)	10 U	11 UJ
Bromoform	1000		800	10 U	15 U	6300 U	10 U	11 UJ
Bromomethane	1000	1000000	200	10 U	15 U	6300 U	10 U	11 UJ
Carbon disulfide			32000	10 U	15 U	6300 U	10 U	11 UJ
Carbon tetrachloride	1000		70	10 U	15 U	6300 U	10 U	11 UJ
Chlorobenzene	1000		1000	10 U	15 U	6300 U	10 U	11 UJ
Chloroethane				10 U	15 U	6300 U	10 U	11 UJ
Chloroform	1000	28000	600	10 U	15 U	16000 (AC)	10 U	11 UJ
Chloromethane	10000			10 U	15 U	6300 U	10 U	11 UJ
Cyclohexane				10 U	15 U	1700 J	10 U	11 UJ
DBCP (1,2-dibromo-3-chloropropane)				10 U	15 U	6300 U	10 U	11 UJ
Dibromochloromethane	1000		400	10 U	15 U	6300 U	10 U	11 UJ
Dibromoethane-1,2				10 U	15 U	6300 U	10 U	11 UJ
Dichlorobenzene-1,2	50000		17000	10 U	15 U	4800 J	10 U	11 UJ
Dichlorobenzene-1,3	100000			10 U	15 U	6300 U	10 U	11 UJ
Dichlorobenzene-1,4	100000		2000	10 U	15 U	6300 U	10 U	11 UJ
Dichlorobromomethane	1000		600	10 U	15 U	6300 U	10 U	11 UJ
Dichlorodifluoromethane				10 U	15 U	6300 U	10 UJ	11 UJ
Dichloroethane-1,1	10000		23000	10 U	15 U	1500 J	10 U	11 UJ
Dichloroethane-1,2	1000		20	10 U	15 U	6300 U	10 U	11 UJ
Dichloroethene-1,2 trans	50000		700	10 U	15 U	6300 U	10 U	11 UJ
Dichloroethylene-1,1	10000		60	10 U	15 U	6300 U	10 U	11 UJ
Dichloroethylene-1,2 cis	1000	1000000	400	10 U	15 U	6300 U	10 U	11 UJ
Dichloropropane-1,2			30	10 U	15 U	6300 U	10 U	11 UJ
Dichloropropene-1,3 cis			4	10 U	15 U	6300 U	10 U	11 UJ
Dichloropropene-1,3 trans			4	10 U	15 U	6300 U	10 U	11 UJ
Ethylbenzene	100000	1000000	13000	10 U	15 U	29000 (C)	10 U	11 UJ
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				10 U	15 U	740 J	10 U	11 UJ

B- Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

302724

Station ID	(A)	(B)	(C)	MA-SB-97	MA-SB-98	MA-SO-201	MA-SO-202	MA-SO-203
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB97-S	MA-SB98-S	MA-SO201-S	MA-SO202-S-13	MA-SO203-S
Sample Date				10/22/2001	10/22/2001	10/17/2001	12/14/2001	10/19/2001
Sample Interval				4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	13 - 13.5 ft	4 - 4.5 ft
CLP Sample ID				B0DG4	B0DH1	B0DB6	B0FT1	B0DF2
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				10 U	15 U	6300 U	10 U	11 UJ
Isopropylbenzene				10 U	15 U	1100 J	10 U	11 UJ
Methyl acetate				10 U	15 U	6300 U	10 U	11 UJ
Methyl cyclohexane				10 U	15 U	12000	10 U	11 UJ
Methyl ethyl ketone (2-butanone)	50000			10 U	15 U	6300 U	10 U	11 UJ
Methyl isobutyl ketone (4-methyl-2-penta	50000			10 U	15 U	3000 J	10 U	11 UJ
Methyl tertiary butyl ether (MTBE)				10 U	15 U	6300 UJ	10 U	11 UJ
Methylene chloride	1000		20	10 U	15 U	12000 U	17 U	11 UJ
Styrene	100000		4000	10 U	15 U	6300 U	10 U	11 UJ
Tetrachloroethane-1,1,2,2	1000		3	10 U	15 U	6300 U	10 U	11 UJ
Tetrachloroethylene	1000	6000	60	10 U	19	43000 (ABC)	10 U	3 J
Toluene	500000	1000000	12000	10 U	15 U	49000 (C)	1 J	11 UJ
Trichlorobenzene-1,2,4	100000		5000	10 U	15 U	14000 J (C)	10 U	11 UJ
Trichloroethane-1,1,1	50000		2000	10 U	15 U	3300 J (C)	10 U	11 UJ
Trichloroethane-1,1,2	1000		20	10 U	15 U	6300 U	10 U	11 UJ
Trichloroethylene	1000	54000	60	10 U	1 J	15000 (AC)	5 J	2 J
Trichlorofluoromethane				10 U	15 U	710 J	10 U	11 UJ
Vinyl chloride	10000	7000	10	10 U	15 U	6300 U	10 U	11 UJ
Xylenes, total	67000		210000	10 U	15 U	220000 (AC)	10 U	11 UJ

B- Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-204	MA-SO-206	MA-SO-207	MA-SO-208	MA-SO-209
Sample ID	IGWSSC	NRDCSCC	EPASSLDA F20	MA-SO204-S-5.0	MA-SO206-S-5.0	MA-SO207-S	MA-SO208-S	MA-SO209-S
Sample Date				12/17/2001	12/17/2001	10/22/2001	10/22/2001	10/22/2001
Sample Interval				5 - 5.5 ft	5 - 5.5 ft	4.5 - 5 ft	4.5 - 5 ft	5 - 5.5 ft
CLP Sample ID				B0FW6	B0FT9	B0DG9	B0DH5	B0DH7RE
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	27	12	3 J	13 U	12 UJ
Benzene	1000	13000	30	13 U	10 U	11 U	13 U	12 UJ
Bromoform	1000		800	13 U	10 U	11 U	13 U	12 UJ
Bromomethane	1000	1000000	200	13 U	10 U	11 U	13 U	12 UJ
Carbon disulfide			32000	13 U	10 U	11 U	13 U	12 UJ
Carbon tetrachloride	1000		70	13 U	10 U	11 U	13 U	12 UJ
Chlorobenzene	1000		1000	13 U	10 U	11 U	13 U	12 R
Chloroethane				13 U	10 U	11 U	13 U	12 UJ
Chloroform	1000	28000	600	13 U	10 U	11 U	13 U	12 UJ
Chloromethane	10000			13 U	10 U	11 U	13 U	12 UJ
Cyclohexane				13 U	10 U	11 U	13 U	12 UJ
DBCP (1,2-dibromo-3-chloropropane)				13 U	10 U	11 U	13 U	12 R
Dibromochloromethane	1000		400	13 U	10 U	11 U	13 U	12 UJ
Dibromoethane-1,2				13 U	10 U	11 U	13 U	12 R
Dichlorobenzene-1,2	50000		17000	13 U	10 U	11 U	13 U	12 R
Dichlorobenzene-1,3	100000			13 U	10 U	11 U	13 U	12 R
Dichlorobenzene-1,4	100000		2000	13 U	10 U	11 U	13 U	12 R
Dichlorobromomethane	1000		600	13 U	10 U	11 U	13 U	12 UJ
Dichlorodifluoromethane				13 U	10 U	11 U	13 U	12 UJ
Dichloroethane-1,1	10000		23000	13 U	10 U	11 U	13 U	12 UJ
Dichloroethane-1,2	1000		20	13 U	10 U	11 U	13 U	12 UJ
Dichloroethene-1,2 trans	50000		700	13 U	10 U	11 U	13 U	12 UJ
Dichloroethylene-1,1	10000		60	13 U	10 U	11 U	13 U	12 UJ
Dichloroethylene-1,2 cis	1000	1000000	400	13 U	10 U	11 U	13 U	12 UJ
Dichloropropane-1,2			30	13 U	10 U	11 U	13 U	12 UJ
Dichloropropene-1,3 cis			4	13 U	10 U	11 U	13 U	12 UJ
Dichloropropene-1,3 trans			4	13 U	10 U	11 U	13 U	12 UJ
Ethylbenzene	100000	1000000	13000	13 U	10 U	11 U	13 U	12 R
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				13 U	10 U	11 U	13 U	12 UJ

B - Analyte detected in associated blank
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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSSC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-204	MA-SO-206	MA-SO-207	MA-SO-208	MA-SO-209
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO204-S-5.0	MA-SO206-S-5.0	MA-SO207-S	MA-SO208-S	MA-SO209-S
Sample Date				12/17/2001	12/17/2001	10/22/2001	10/22/2001	10/22/2001
Sample Interval				5 - 5.5 ft	5 - 5.5 ft	4.5 - 5 ft	4.5 - 5 ft	5 - 5.5 ft
CLP Sample ID				B0FW6	B0FT9	B0DG9	B0DH5	B0DH7RE
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				13 U	10 U	11 U	13 U	12 R
Isopropylbenzene				13 U	10 U	11 U	13 U	12 R
Methyl acetate				13 U	10 U	11 U	13 U	12 UJ
Methyl cyclohexane				13 U	10 U	11 U	13 U	12 UJ
Methyl ethyl ketone (2-butanone)	50000			13 U	10 U	11 U	18	12 UJ
Methyl isobutyl ketone (4-methyl-2-penta	50000			13 U	10 U	11 U	13 U	12 R
Methyl tertiary butyl ether (MTBE)				13 U	10 U	11 U	13 U	12 UJ
Methylene chloride	1000		20	13 U	10 U	11 U	13 U	12 UJ
Styrene	100000		4000	13 U	10 U	11 U	13 U	12 R
Tetrachloroethane-1,1,2,2	1000		3	13 U	10 U	11 U	13 U	12 R
Tetrachloroethylene	1000	6000	60	13 U	10 U	11 U	13 U	2 J
Toluene	500000	1000000	12000	2 J	10 U	11 U	13 U	4 J
Trichlorobenzene-1,2,4	100000		5000	13 U	10 U	11 U	13 U	12 R
Trichloroethane-1,1,1	50000		2000	13 U	10 U	11 U	13 U	12 UJ
Trichloroethane-1,1,2	1000		20	13 U	10 U	11 U	13 U	12 UJ
Trichloroethylene	1000	54000	60	13 U	10 U	2 J	13 U	12 UJ
Trichlorofluoromethane				13 UJ	10 UJ	11 U	13 U	12 UJ
Vinyl chloride	10000	7000	10	13 U	10 U	11 U	13 U	12 UJ
Xylenes, total	67000		210000	2 J	10 U	11 U	13 U	12 R

B- Analyte detected in associated blank
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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-210	MA-SO-211	MA-SO-212	MA-SO-213	MA-SO-214
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO210-S-5.0	MA-SO211-S-4.5	MA-SO212-S-5.0	MA-SO213-S-5.5	MA-SO214-S
Sample Date				12/14/2001	12/14/2001	12/14/2001	12/14/2001	10/18/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	5 - 5.5 ft	5.5 - 6 ft	4 - 4.5 ft
CLP Sample ID				B0FW2	B0FT3	B0FT6	B0FW0	B0DC9
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	26 UJ	25 UJ	3 J	4 J	14 UJ
Benzene	1000	13000	30	26 U	25 U	16 U	16 U	14 U
Bromoform	1000		800	26 U	25 U	16 U	16 U	14 U
Bromomethane	1000	1000000	200	26 U	25 U	16 U	16 U	14 U
Carbon disulfide			32000	26 U	16 J	16 U	16 U	14 U
Carbon tetrachloride	1000		70	26 U	25 U	16 U	16 U	14 U
Chlorobenzene	1000		1000	26 U	25 U	16 U	16 U	14 U
Chloroethane				26 U	25 U	16 U	16 U	14 U
Chloroform	1000	28000	600	26 U	25 U	16 U	16 U	14 U
Chloromethane	10000			26 U	25 U	16 U	16 U	14 U
Cyclohexane				26 U	25 U	16 U	16 U	14 U
DBCP (1,2-dibromo-3-chloropropane)				26 U	25 U	16 U	16 U	14 U
Dibromochloromethane	1000		400	26 U	25 U	16 U	16 U	14 U
Dibromoethane-1,2				26 U	25 U	16 U	16 U	14 U
Dichlorobenzene-1,2	50000		17000	26 U	25 U	16 U	16 U	14 U
Dichlorobenzene-1,3	100000			26 U	25 U	16 U	16 U	14 U
Dichlorobenzene-1,4	100000		2000	26 U	25 U	16 U	16 U	14 U
Dichlorobromomethane	1000		600	26 U	25 U	16 U	16 U	14 U
Dichlorodifluoromethane				26 UJ	25 UJ	16 UJ	16 UJ	14 U
Dichloroethane-1,1	10000		23000	26 U	25 U	16 U	16 U	14 U
Dichloroethane-1,2	1000		20	26 U	25 U	16 U	16 U	14 U
Dichloroethene-1,2 trans	50000		700	26 U	25 U	16 U	16 U	14 U
Dichloroethylene-1,1	10000		60	26 U	25 U	16 U	16 U	14 U
Dichloroethylene-1,2 cis	1000	1000000	400	26 U	25 U	16 U	2 J	14 U
Dichloropropane-1,2			30	26 U	25 U	16 U	16 U	14 U
Dichloropropene-1,3 cis			4	26 U	25 U	16 U	16 U	14 U
Dichloropropene-1,3 trans			4	26 U	25 U	16 U	16 U	14 U
Ethylbenzene	100000	1000000	13000	26 U	25 U	16 U	16 U	14 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				26 U	25 U	16 U	16 U	14 U

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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
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NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-210	MA-SO-211	MA-SO-212	MA-SO-213	MA-SO-214
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO210-S-5.0	MA-SO211-S-4.5	MA-SO212-S-5.0	MA-SO213-S-5.5	MA-SO214-S
Sample Date				12/14/2001	12/14/2001	12/14/2001	12/14/2001	10/18/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	5 - 5.5 ft	5.5 - 6 ft	4 - 4.5 ft
CLP Sample ID				B0FW2	B0FT3	B0FT6	B0FW0	B0DC9
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				26 U	25 U	16 U	16 U	14 U
Isopropylbenzene				26 U	25 U	16 U	16 U	14 U
Methyl acetate				26 U	25 U	16 U	16 U	14 U
Methyl cyclohexane				26 U	25 U	16 U	16 U	14 U
Methyl ethyl ketone (2-butanone)	50000			26 U	25 U	16 U	16 U	14 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			26 U	25 U	16 U	16 U	14 U
Methyl tertiary butyl ether (MTBE)				26 U	25 U	16 U	16 U	14 U
Methylene chloride	1000		20	28 U	28 U	18 U	24 U	14 U
Styrene	100000		4000	26 U	25 U	16 U	16 U	14 U
Tetrachloroethane-1,1,2,2	1000		3	26 U	25 U	16 U	16 U	14 U
Tetrachloroethylene	1000	6000	60	26 U	25 U	16 U	16 U	24
Toluene	500000	1000000	12000	5 J	3 J	2 J	3 J	14 U
Trichlorobenzene-1,2,4	100000		5000	26 U	25 U	16 U	16 U	14 U
Trichloroethane-1,1,1	50000		2000	26 U	25 U	16 U	16 U	14 U
Trichloroethane-1,1,2	1000		20	26 U	25 U	16 U	16 U	14 U
Trichloroethylene	1000	54000	60	26 U	25 U	16 U	16 U	3 J
Trichlorofluoromethane				3 J	25 U	16 U	2 J	14 U
Vinyl chloride	10000	7000	10	26 U	25 U	16 U	16 U	14 U
Xylenes, total	67000		210000	26 U	25 U	16 U	2 J	14 U

B- Analyte detected in associated blank
J- Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-301	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-402
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO301-S-5.0	MA-SO302-S-6.0	MA-SO303-S-6.0	MA-SO401-S-10.0	MA-SO402-S-10.5
Sample Date				12/13/2001	12/12/2001	12/13/2001	12/17/2001	12/17/2001
Sample Interval				5 - 5.5 ft	6 - 6.5 ft	6 - 6.5 ft	10 - 10.5 ft	10.5 - 11 ft
CLP Sample ID				B0DY1	B0AY2	B0DY4	B0FW9	B0FX0
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Acetone	100000		16000	500 J	23 UJ	10 J	13	2 J
Benzene	1000	13000	30	58 UJ	15 U	11 U	12 U	10 U
Bromoform	1000		800	58 UJ	15 U	11 U	12 U	10 U
Bromomethane	1000	1000000	200	58 UJ	15 U	11 U	12 U	10 U
Carbon disulfide			32000	21 J	16	11 U	2 J	10 U
Carbon tetrachloride	1000		70	58 UJ	15 U	11 U	12 U	10 U
Chlorobenzene	1000		1000	58 UJ	15 U	11 U	12 U	10 U
Chloroethane				58 UJ	15 U	11 U	12 U	10 U
Chloroform	1000	28000	600	58 UJ	15 U	11 U	12 U	10 U
Chloromethane	10000			58 UJ	15 U	11 U	12 U	10 U
Cyclohexane				58 UJ	15 U	11 U	12 U	10 U
DBCP (1,2-dibromo-3-chloropropane)				58 UJ	15 U	11 U	12 U	10 U
Dibromochloromethane	1000		400	58 UJ	15 U	11 U	12 U	10 U
Dibromoethane-1,2				58 UJ	15 U	11 U	12 U	10 U
Dichlorobenzene-1,2	50000		17000	58 UJ	15 U	11 U	12 U	10 U
Dichlorobenzene-1,3	100000			58 UJ	15 U	11 U	12 U	10 U
Dichlorobenzene-1,4	100000		2000	58 UJ	15 U	11 U	12 U	10 U
Dichlorobromomethane	1000		600	58 UJ	15 U	11 U	12 U	10 U
Dichlorodifluoromethane				58 UJ	15 UJ	11 U	12 U	10 U
Dichloroethane-1,1	10000		23000	58 UJ	15 U	11 U	12 U	10 U
Dichloroethane-1,2	1000		20	58 UJ	15 U	11 U	12 U	10 U
Dichloroethene-1,2 trans	50000		700	58 UJ	15 U	11 U	12 U	10 U
Dichloroethylene-1,1	10000		60	58 UJ	15 U	11 U	12 U	10 U
Dichloroethylene-1,2 cis	1000	1000000	400	58 UJ	15 U	11 U	12 U	10 U
Dichloropropane-1,2			30	58 UJ	15 U	11 U	12 U	10 U
Dichloropropene-1,3 cis			4	58 UJ	15 U	11 U	12 U	10 U
Dichloropropene-1,3 trans			4	58 UJ	15 U	11 U	12 U	10 U
Ethylbenzene	100000	1000000	13000	58 UJ	15 U	11 U	12 U	10 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				58 UJ	15 U	11 U	12 U	10 U

B- Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-301	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-402
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO301-S-5.0	MA-SO302-S-6.0	MA-SO303-S-6.0	MA-SO401-S-10.0	MA-SO402-S-10.5
Sample Date				12/13/2001	12/12/2001	12/13/2001	12/17/2001	12/17/2001
Sample Interval				5 - 5.5 ft	6 - 6.5 ft	6 - 6.5 ft	10 - 10.5 ft	10.5 - 11 ft
CLP Sample ID				B0DY1	B0AY2	B0DY4	B0FW9	B0FX0
Chemical Name								
Volatile Organic Compounds (ug/Kg)								
Hexanone-2				58 UJ	15 U	11 U	12 U	10 U
Isopropylbenzene				58 UJ	15 U	11 U	12 U	10 U
Methyl acetate				58 UJ	15 U	11 U	12 U	10 U
Methyl cyclohexane				58 UJ	15 U	11 U	12 U	10 U
Methyl ethyl ketone (2-butanone)	50000			210 J	15 U	11 U	12 U	10 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			58 UJ	15 U	11 U	12 U	10 U
Methyl tertiary butyl ether (MTBE)				58 UJ	15 U	11 U	12 U	10 U
Methylene chloride	1000		20	90 UJ	20 U	18 U	12 U	10 U
Styrene	100000		4000	58 UJ	15 U	11 U	12 U	10 U
Tetrachloroethane-1,1,2,2	1000		3	58 UJ	15 U	11 U	12 U	10 U
Tetrachloroethylene	1000	6000	60	58 UJ	15 U	11 U	12 U	10 U
Toluene	500000	1000000	12000	58 UJ	15 U	11 U	12 U	1 J
Trichlorobenzene-1,2,4	100000		5000	58 UJ	15 U	11 U	12 U	10 U
Trichloroethane-1,1,1	50000		2000	58 UJ	15 U	11 U	12 U	10 U
Trichloroethane-1,1,2	1000		20	58 UJ	15 U	11 U	12 U	10 U
Trichloroethylene	1000	54000	60	58 UJ	15 U	11 U	12 U	10 U
Trichlorofluoromethane				58 UJ	15 U	11 U	12 UJ	2 J
Vinyl chloride	10000	7000	10	58 UJ	15 U	11 U	12 U	10 U
Xylenes, total	67000		210000	58 UJ	15 U	11 U	12 U	10 U

B- Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
Subsurface Soil - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-403	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO403-S-10.0	MA-SO404-S-8.5
Sample Date				12/17/2001	12/17/2001
Sample Interval				10 - 10.5 ft	8.5 - 9 ft
CLP Sample ID				B0FX1	B0FX3
Chemical Name					
Volatile Organic Compounds (ug/Kg)					
Acetone	100000		16000	4 J	2 J
Benzene	1000	13000	30	10 U	11 U
Bromoform	1000		800	10 U	11 U
Bromomethane	1000	1000000	200	10 U	11 U
Carbon disulfide			32000	10 U	11 U
Carbon tetrachloride	1000		70	10 U	11 U
Chlorobenzene	1000		1000	10 U	11 U
Chloroethane				10 U	11 U
Chloroform	1000	28000	600	10 U	11 U
Chloromethane	10000			10 U	11 U
Cyclohexane				10 U	11 U
DBCP (1,2-dibromo-3-chloropropane)				10 U	11 U
Dibromochloromethane	1000		400	10 U	11 U
Dibromoethane-1,2				10 U	11 U
Dichlorobenzene-1,2	50000		17000	10 U	11 U
Dichlorobenzene-1,3	100000			10 U	11 U
Dichlorobenzene-1,4	100000		2000	10 U	11 U
Dichlorobromomethane	1000		600	10 U	11 U
Dichlorodifluoromethane				10 U	11 U
Dichloroethane-1,1	10000		23000	10 U	11 U
Dichloroethane-1,2	1000		20	10 U	11 U
Dichloroethene-1,2 trans	50000		700	10 U	11 U
Dichloroethylene-1,1	10000		60	10 U	11 U
Dichloroethylene-1,2 cis	1000	1000000	400	10 U	11 U
Dichloropropane-1,2			30	10 U	11 U
Dichloropropene-1,3 cis			4	10 U	11 U
Dichloropropene-1,3 trans			4	10 U	11 U
Ethylbenzene	100000	1000000	13000	10 U	11 U
Freon 113 (1,1,2-trichloro-1,2,2-trifluoroethane)				10 U	11 U

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.5
 Subsurface Soil - Volatile Organic Compound Results
 Martin Aaron Superfund Site
 Camden, NJ
 Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-403	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO403-S-10.0	MA-SO404-S-8.5
Sample Date				12/17/2001	12/17/2001
Sample Interval				10 - 10.5 ft	8.5 - 9 ft
CLP Sample ID				B0FX1	B0FX3
Chemical Name					
Volatile Organic Compounds (ug/Kg)					
Hexanone-2				10 U	11 U
Isopropylbenzene				10 U	11 U
Methyl acetate				10 U	11 U
Methyl cyclohexane				10 U	11 U
Methyl ethyl ketone (2-butanone)	50000			10 U	11 U
Methyl isobutyl ketone (4-methyl-2-penta	50000			10 U	11 U
Methyl tertiary butyl ether (MTBE)				10 U	11 U
Methylene chloride	1000		20	12 U	12 U
Styrene	100000		4000	10 U	11 U
Tetrachloroethane-1,1,2,2	1000		3	10 U	11 U
Tetrachloroethylene	1000	6000	60	10 U	11 U
Toluene	500000	1000000	12000	10 U	2 J
Trichlorobenzene-1,2,4	100000		5000	10 U	11 U
Trichloroethane-1,1,1	50000		2000	10 U	11 U
Trichloroethane-1,1,2	1000		20	10 U	11 U
Trichloroethylene	1000	54000	60	10 U	11 U
Trichlorofluoromethane				10 UJ	2 J
Vinyl chloride	10000	7000	10	10 U	11 U
Xylenes, total	67000		210000	10 U	1 J

B- Analyte detected in associated blank
 J - Reported value estimated in quantity
 R - Rejected Result
 U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
 Exceedences highlighted
 IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup
 Criteria
 EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-12S	MA-MW-13S	MA-MW-14S	MA-MW-14S	MA-MW-15S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-12S-S	MA-MW-13S-S	MA-MW-14S-S-9	MA-MW-14S-S-9D	MA-MW-15S-S
Sample Date				10/30/2001	10/30/2001	01/10/2002	01/10/2002	10/29/2001
Sample Interval				5.4 - 15.4 ft	6.6 - 16.6 ft	7 - 20 ft	7 - 20 ft	6.8 - 16.8 ft
CLP Sample ID				B0AW8	B0AX0	B0G11	B0G08	B0DH0
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	340 J	410 U	410 UJ	410 UJ	520 J
Acenaphthylene			4200000	82 J	410 U	410 UJ	410 UJ	480 J
Acetophenone				410 U	410 U	100 J	150 J	14 J
Anthracene	100000		12000000	1200	410 U	410 UJ	410 UJ	1800 J
Atrazine				410 U	410 U	410 UJ	410 UJ	360 UJ
Benzaldehyde				410 U	140 J	410 UJ	410 UJ	21 J
Benzo(a)anthracene	500000	4000	2000	5700 (BC)	22 J	410 UJ	410 UJ	4700 J (BC)
Benzo(a)pyrene	100000	660	8000	5100 (B)	21 J	410 UJ	410 UJ	3900 J (B)
Benzo(b)fluoranthene	50000	4000	5000	6200 (BC)	27 J	410 UJ	410 UJ	4200 J (B)
Benzo(g,h,i)perylene			4200000	1600	410 U	410 UJ	410 UJ	1300 J
Benzo(k)fluoranthene	500000	4000	49000	2900	24 J	410 UJ	410 UJ	2700 J
Biphenyl				19 J	94 J	410 UJ	410 UJ	74 J
Bromophenyl-4 Phenyl Ether				410 U	410 U	410 UJ	410 UJ	360 UJ
Butylbenzyl phthalate	100000		930000	410 U	100 J	410 UJ	76 J	170 J
Caprolactam				410 U	410 U	410 UJ	410 UJ	26 J
Carbazole			600	410	410 U	410 UJ	410 UJ	690 J (C)
Chloroaniline-4			700	410 U	410 U	410 UJ	410 UJ	360 UJ
Chloronaphthalene-2				410 U	410 U	410 UJ	410 UJ	360 UJ
Chlorophenol-2	10000		4000	410 U	410 U	410 UJ	410 UJ	360 UJ
Chlorophenyl-4 phenyl ether				410 U	410 U	410 UJ	410 UJ	360 UJ
Chrysene	500000	40000	160000	6100	35 J	58 J	110 J	3500 J
Cresol-4,6-dinitro-ortho				1000 U	1000 U	1000 UJ	1000 UJ	910 UJ
Cresol-o			15000	720	49 J	410 UJ	410 UJ	360 UJ
Cresol-p				150 J	77 J	910 J	1300 J	18 J
Cresol-parachloro-meta	100000		4000	410 U	410 U	410 UJ	410 UJ	360 UJ
Dibenzo(a,h)anthracene	100000	660	2000	800 (B)	410 U	410 UJ	410 UJ	650 J
Dibenzofuran				170 J	410 U	410 UJ	410 UJ	480 J
Dichlorobenzidine-3,3	100000		7	410 U	410 U	410 UJ	410 UJ	360 UJ
Dichlorophenol-2,4	10000		1000	410 U	410 U	410 UJ	410 UJ	360 UJ

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-12S	MA-MW-13S	MA-MW-14S	MA-MW-14S	MA-MW-15S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-MW-12S-S	MA-MW-13S-S	MA-MW-14S-S-9	MA-MW-14S-S-9D	MA-MW-15S-S
Sample Date			F20	10/30/2001	10/30/2001	01/10/2002	01/10/2002	10/29/2001
Sample Interval				5.4 - 15.4 ft	6.6 - 16.6 ft	7 - 20 ft	7 - 20 ft	6.8 - 16.8 ft
CLP Sample ID				B0AW8	B0AX0	B0G11	B0G08	B0DH0
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	12 J	24 J	410 UJ	410 UJ	360 UJ
Dinitrophenol-2,4	10000		300	1000 U	1000 U	1000 UJ	1000 UJ	910 UJ
Dinitrotoluene-2,4			0.8	410 U	410 U	410 UJ	410 UJ	360 UJ
Dinitrotoluene-2,6			0.7	410 U	410 U	410 UJ	410 UJ	360 UJ
Ether, bis(2-chloroethyl)	10000		0.4	410 U	410 U	410 UJ	410 UJ	360 UJ
Ether, bis-chloroisopropyl	10000			410 U	410 U	410 UJ	410 UJ	360 UJ
Fluoranthene	100000	10000000	4300000	9400	410 U	410 UJ	410 UJ	9100 J
Fluorene	100000		560000	410 U	410 U	410 UJ	410 UJ	850 J
Hexachlorobenzene	100000		2000	410 U	410 U	410 UJ	410 UJ	360 UJ
Hexachlorobutadiene	100000		2000	410 U	410 U	410 UJ	410 UJ	360 UJ
Hexachlorocyclopentadiene	100000		400000	410 U	410 U	410 UJ	410 UJ	360 UJ
Hexachloroethane	100000		500	410 U	410 U	410 UJ	410 UJ	360 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	1900 J	10 J	410 UJ	410 UJ	1900 J
Isophorone	50000		500	410 U	410 U	410 UJ	410 UJ	360 UJ
Methane, bis(2-chloroethoxy)				410 U	410 U	410 UJ	410 UJ	360 UJ
Methylnaphthalene-2				50 J	28 J	410 UJ	42 J	310 J
Naphthalene	100000	4200000	84000	64 J	41 J	100 J	130 J	460 J
Nitroaniline-2				1000 U	1000 U	1000 UJ	1000 UJ	910 UJ
Nitroaniline-3				1000 U	1000 U	1000 UJ	1000 UJ	910 UJ
Nitroaniline-4				1000 U	1000 U	1000 UJ	1000 UJ	910 UJ
Nitrobenzene	10000		100	410 U	410 U	410 UJ	410 UJ	360 UJ
Nitrophenol-2				410 U	410 U	410 UJ	410 UJ	360 UJ
Nitrophenol-4				1000 U	1000 U	1000 UJ	1000 UJ	910 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	410 U	410 U	410 UJ	410 UJ	360 UJ
Nitrosodiphenylamine-n	100000		1000	410 U	410 U	410 UJ	410 UJ	360 UJ
PCP (Pentachlorophenol)	100000		30	1000 U	1000 U	1000 UJ	1000 UJ	910 UJ
Phenanthrene			4200000	5100	410 U	77 J	150 J	7700 J
Phenol	50000		100000	410 U	140 J	410 UJ	410 UJ	360 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		410 U	4100	760 UJ	870 UJ	360 JBU

B - Analyte detected in associated blank
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R - Rejected Result
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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-12S	MA-MW-13S	MA-MW-14S	MA-MW-14S	MA-MW-15S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-12S-S	MA-MW-13S-S	MA-MW-14S-S-9	MA-MW-14S-S-9D	MA-MW-15S-S
Sample Date				10/30/2001	10/30/2001	01/10/2002	01/10/2002	10/29/2001
Sample Interval				5.4 - 15.4 ft	6.6 - 16.6 ft	7 - 20 ft	7 - 20 ft	6.8 - 16.8 ft
CLP Sample ID				B0AW8	B0AX0	B0G11	B0G08	B0DH0
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	410 U	190 J	410 UJ	410 UJ	360 UJ
Phthalate, di-n-octyl	100000		10000000	410 UJ	410 UJ	340 J	430 J	73 J
Phthalate, diethyl	50000			410 U	320 J	410 UJ	410 UJ	360 UJ
Phthalate, dimethyl	50000			410 U	410 U	410 UJ	410 UJ	360 UJ
Pyrene	100000	10000000	4200000	8700	56 J	410 UJ	410 UJ	8000 J
Trichlorophenol-2,4,5	50000		270000	1000 U	1000 U	1000 UJ	1000 UJ	910 UJ
Trichlorophenol-2,4,6	10000		200	410 U	410 U	410 UJ	410 UJ	360 UJ

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

302736

Station ID	(A)	(B)	(C)	MA-MW-16S	MA-MW-17S	MA-MW-18S	MA-MW-18S	MA-MW-19S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-MW-16S-S	MA-MW-17S-S-4.5	MA-MW-18S-S-5	MA-MW-18S-S-5D	MA-MW-19S-S-3
Sample Date			F20	10/29/2001	11/07/2001	11/06/2001	11/06/2001	11/06/2001
Sample Interval				6.5 - 16.5 ft	8 - 18 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	5.05 - 15.05 ft
CLP Sample ID				B0DF8	B0AY0	B0AX5	B0AX6	B0AX8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	110 J	420 UJ	150 J	180 J	400 UJ
Acenaphthylene			4200000	69 J	48 J	390 UJ	400 UJ	400 UJ
Acetophenone				20 J	420 UJ	390 UJ	400 UJ	400 UJ
Anthracene	100000		12000000	390 J	96 J	320 J	400 J	47 J
Atrazine				350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Benzaldehyde				26 J	420 R	390 R	400 R	400 R
Benzo(a)anthracene	500000	4000	2000	1100 J	500 J	1500 J	1900 J	180 J
Benzo(a)pyrene	100000	660	8000	920 J (B)	230 J	930 J (B)	1000 J (B)	160 J
Benzo(b)fluoranthene	50000	4000	5000	970 J	420 J	1500 J	2000 J	160 J
Benzo(g,h,i)perylene			4200000	480 J	230 J	42 J	400 UJ	400 UJ
Benzo(k)fluoranthene	500000	4000	49000	860 J	390 J	1200 J	1900 J	120 J
Biphenyl				12 J	420 UJ	390 UJ	400 UJ	400 UJ
Bromophenyl-4 Phenyl Ether				350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Butylbenzyl phthalate	100000		930000	10 J	420 UJ	390 UJ	49 J	400 UJ
Caprolactam				350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Carbazole			600	130 J	420 UJ	190 J	240 J	400 UJ
Chloroaniline-4			700	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Chloronaphthalene-2				350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Chlorophenol-2	10000		4000	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Chlorophenyl-4 phenyl ether				350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Chrysene	500000	40000	160000	1200 J	550 J	1400 J	1700 J	200 J
Cresol-4,6-dinitro-ortho				890 UJ	1100 R	980 R	1000 R	1000 R
Cresol-o			15000	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Cresol-p				350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Cresol-parachloro-meta	100000		4000	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Dibenzo(a,h)anthracene	100000	660	2000	200 J	110 J	220 J	310 J	400 UJ
Dibenzofuran				87 J	420 UJ	49 J	57 J	400 UJ
Dichlorobenzidine-3,3	100000		7	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Dichlorophenol-2,4	10000		1000	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-16S	MA-MW-17S	MA-MW-18S	MA-MW-18S	MA-MW-19S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-MW-16S-S	MA-MW-17S-S-4.5	MA-MW-18S-S-5	MA-MW-18S-S-5D	MA-MW-19S-S-3
Sample Date			F20	10/29/2001	11/07/2001	11/06/2001	11/06/2001	11/06/2001
Sample Interval				6.5 - 16.5 ft	8 - 18 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	5.05 - 15.05 ft
CLP Sample ID				B0DF8	B0AY0	B0AX5	B0AX6	B0AX8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Dinitrophenol-2,4	10000		300	890 UJ	1100 R	980 R	1000 R	1000 R
Dinitrotoluene-2,4			0.8	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Dinitrotoluene-2,6			0.7	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Ether, bis(2-chloroethyl)	10000		0.4	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Ether, bis-chloroisopropyl	10000			350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Fluoranthene	100000	10000000	4300000	2100 J	840 J	3100 J	4100 J	400 J
Fluorene	100000		560000	160 J	420 UJ	100 J	120 J	400 UJ
Hexachlorobenzene	100000		2000	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Hexachlorobutadiene	100000		2000	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Hexachlorocyclopentadiene	100000		400000	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Hexachloroethane	100000		500	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	620 J	230 J	730 J	840 J	110 J
Isophorone	50000		500	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Methane, bis(2-chloroethoxy)				350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Methylnaphthalene-2				33 J	420 UJ	390 UJ	400 UJ	400 UJ
Naphthalene	100000	4200000	84000	250 J	420 UJ	390 UJ	400 UJ	400 UJ
Nitroaniline-2				890 UJ	1100 UJ	980 UJ	1000 UJ	1000 UJ
Nitroaniline-3				890 UJ	1100 UJ	980 UJ	1000 UJ	1000 UJ
Nitroaniline-4				890 UJ	1100 UJ	980 UJ	1000 UJ	1000 UJ
Nitrobenzene	10000		100	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Nitrophenol-2				350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Nitrophenol-4				890 UJ	1100 UJ	980 UJ	1000 UJ	1000 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Nitrosodiphenylamine-n	100000		1000	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
PCP (Pentachlorophenol)	100000		30	890 UJ	1100 UJ	980 UJ	1000 UJ	1000 UJ
Phenanthrene			4200000	1800 J	460 J	1500 J	1800 J	210 J
Phenol	50000		100000	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		650 BJ	87 J	50 J	41 J	400 UJ

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-16S	MA-MW-17S	MA-MW-18S	MA-MW-18S	MA-MW-19S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-16S-S	MA-MW-17S-S-4.5	MA-MW-18S-S-5	MA-MW-18S-S-5D	MA-MW-19S-S-3
Sample Date				10/29/2001	11/07/2001	11/06/2001	11/06/2001	11/06/2001
Sample Interval				6.5 - 16.5 ft	8 - 18 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	5.05 - 15.05 ft
CLP Sample ID				B0DF8	B0AY0	B0AX5	B0AX6	B0AX8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	350 UJ	130 J	390 UJ	400 UJ	400 UJ
Phthalate, di-n-octyl	100000		10000000	71 J	420 UJ	390 UJ	400 UJ	400 UJ
Phthalate, diethyl	50000			350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Phthalate, dimethyl	50000			350 UJ	420 UJ	390 UJ	400 UJ	400 UJ
Pyrene	100000	10000000	4200000	1800 J	700 J	2200 J	2500 J	350 J
Trichlorophenol-2,4,5	50000		270000	890 UJ	1100 UJ	980 UJ	1000 UJ	1000 UJ
Trichlorophenol-2,4,6	10000		200	350 UJ	420 UJ	390 UJ	400 UJ	400 UJ

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-20S	MA-MW-21S	MA-SB-02	MA-SB-04	MA-SB-06
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-20S-S-7	MA-MW-21S-S-10	MA-SB02-S	MA-SB04-S	MA-SB06-S
Sample Date				11/07/2001	01/10/2002	10/18/2001	10/16/2001	10/15/2001
Sample Interval				7.9 - 17.9 ft	10 - 21 ft	4.5 - 5 ft	5 - 5.5 ft	5 - 5.5 ft
CLP Sample ID				B0AX7	B0G09	B0DD5	B0DA7	B0D97
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	350 UJ	1900 UJ	1700	1600 J	99 J
Acenaphthylene			4200000	350 UJ	1900 UJ	110 J	320 J	120 J
Acetophenone				350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Anthracene	100000		12000000	350 UJ	1900 UJ	5400	4200	400 J
Atrazine				350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Benzaldehyde				350 R	1900 UJ	17 J	3500 U	740 J
Benzo(a)anthracene	500000	4000	2000	53 J	350 J	8000 (BC)	13000 (BC)	1400 J
Benzo(a)pyrene	100000	660	8000	350 UJ	1900 UJ	9500 (BC)	13000 (BC)	1700 J (B)
Benzo(b)fluoranthene	50000	4000	5000	350 UJ	1900 UJ	13000 (BC)	17000 (BC)	2400 J
Benzo(g,h,i)perylene			4200000	350 UJ	1900 UJ	1100 J	6200	890 J
Benzo(k)fluoranthene	500000	4000	49000	350 UJ	1900 UJ	5300 (B)	9500 (B)	910 J
Biphenyl				350 UJ	1900 UJ	240 J	140 J	64 J
Bromophenyl-4 Phenyl Ether				350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Butylbenzyl phthalate	100000		930000	350 UJ	1900 UJ	1100 U	140 J	690 UJ
Caprolactam				350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Carbazole			600	350 UJ	1900 UJ	1400 (C)	2900 J (C)	210 J
Chloroaniline-4			700	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Chloronaphthalene-2				350 UJ	1900 UJ	1100 U	3500 U	54 J
Chlorophenol-2	10000		4000	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Chlorophenyl-4 phenyl ether				350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Chrysene	500000	40000	160000	81 J	480 J	8700	13000	1700 J
Cresol-4,6-dinitro-ortho				870 R	4700 UJ	2800 U	8700 U	1700 UJ
Cresol-o			15000	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Cresol-p				350 UJ	1900 UJ	1100 U	3500 U	140 J
Cresol-parachloro-meta	100000		4000	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Dibenzo(a,h)anthracene	100000	660	2000	350 UJ	1900 UJ	1200 (B)	3300 J (BC)	300 J
Dibenzofuran				350 UJ	1900 UJ	1200	1200 J	120 J
Dichlorobenzidine-3,3	100000		7	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Dichlorophenol-2,4	10000		1000	350 UJ	1900 UJ	1100 U	3500 U	690 UJ

B- Analyte detected in associated blank
J - Reported value estimated in quantity
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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

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Station ID	(A)	(B)	(C)	MA-MW-20S	MA-MW-21S	MA-SB-02	MA-SB-04	MA-SB-06
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-20S-S-7	MA-MW-21S-S-10	MA-SB02-S	MA-SB04-S	MA-SB06-S
Sample Date				11/07/2001	01/10/2002	10/18/2001	10/16/2001	10/15/2001
Sample Interval				7.9 - 17.9 ft	10 - 21 ft	4.5 - 5 ft	5 - 5.5 ft	5 - 5.5 ft
CLP Sample ID				B0AX7	B0G09	B0DD5	B0DA7	B0D97
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Dinitrophenol-2,4	10000		300	870 R	4700 UJ	2800 U	8700 U	1700 UJ
Dinitrotoluene-2,4			0.8	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Dinitrotoluene-2,6			0.7	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Ether, bis(2-chloroethyl)	10000		0.4	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Ether, bis-chloroisopropyl	10000			350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Fluoranthene	100000	10000000	4300000	84 J	550 J	21000	25000	2500 J
Fluorene	100000		560000	350 UJ	1900 UJ	2200	1800 J	150 J
Hexachlorobenzene	100000		2000	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Hexachlorobutadiene	100000		2000	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Hexachlorocyclopentadiene	100000		400000	350 UJ	1900 UJ	1100 UJ	3500 U	690 UJ
Hexachloroethane	100000		500	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	350 UJ	1900 UJ	6100 (B)	8200 (B)	1100 J
Isophorone	50000		500	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Methane, bis(2-chloroethoxy)				350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Methylnaphthalene-2				350 UJ	1900 UJ	810 J	310 J	220 J
Naphthalene	100000	4200000	84000	350 UJ	1900 UJ	1400	760 J	10000 J
Nitroaniline-2				870 UJ	4700 UJ	2800 U	8700 U	1700 UJ
Nitroaniline-3				870 UJ	4700 UJ	2800 U	8700 U	1700 UJ
Nitroaniline-4				870 UJ	4700 UJ	2800 UJ	8700 U	1700 UJ
Nitrobenzene	10000		100	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Nitrophenol-2				350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Nitrophenol-4				870 UJ	4700 UJ	2800 U	8700 U	1700 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	350 UJ	1900 UJ	1100 UJ	3500 U	690 UJ
Nitrosodiphenylamine-n	100000		1000	350 UJ	1900 UJ	1100 U	3500 U	200 J
PCP (Pentachlorophenol)	100000		30	870 UJ	4700 UJ	2800 UJ	8700 U	1700 UJ
Phenanthrene			4200000	140 J	530 J	19000	20000	1800 J
Phenol	50000		100000	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		52 J	1900 UJ	1100 U	3500 U	690 UJ

B- Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
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Criteria
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-20S	MA-MW-21S	MA-SB-02	MA-SB-04	MA-SB-06
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-20S-S-7	MA-MW-21S-S-10	MA-SB02-S	MA-SB04-S	MA-SB06-S
Sample Date				11/07/2001	01/10/2002	10/18/2001	10/16/2001	10/15/2001
Sample Interval				7.9 - 17.9 ft	10 - 21 ft	4.5 - 5 ft	5 - 5.5 ft	5 - 5.5 ft
CLP Sample ID				B0AX7	B0G09	B0DD5	B0DA7	B0D97
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Phthalate, di-n-octyl	100000		10000000	350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Phthalate, diethyl	50000			350 UJ	1900 UJ	1100 UJ	3500 U	690 UJ
Phthalate, dimethyl	50000			350 UJ	1900 UJ	1100 U	3500 U	690 UJ
Pyrene	100000	10000000	4200000	140 J	730 J	18000	24000	2100 J
Trichlorophenol-2,4,5	50000		270000	870 UJ	4700 UJ	2800 U	8700 U	1700 UJ
Trichlorophenol-2,4,6	10000		200	350 UJ	1900 UJ	1100 UJ	3500 U	690 UJ

B - Analyte detected in associated blank
J - Reported value estimated in quantity
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U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

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Station ID	(A)	(B)	(C)	MA-SB-08	MA-SB-09	MA-SB-106	MA-SB-108	MA-SB-11
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB08-S	MA-SB09-S	MA-SB106-S	MA-SB108-S	MA-SB11-S
Sample Date				10/16/2001	10/15/2001	10/22/2001	10/22/2001	10/15/2001
Sample Interval				6.5 - 7 ft	3 - 3.5 ft	5 - 5.5 ft	4.5 - 5 ft	N/A
CLP Sample ID				B0DA8	B0D90	B0DG8	B0DG0	B0D92
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	4100 U	640	540	4800 J	38 J
Acenaphthylene			4200000	4100 U	320 J	62 J	430 U	14 J
Acetophenone				4100 U	400 U	390 U	430 U	390 U
Anthracene	100000		12000000	330 J	1100	1300	17000	73 J
Atrazine				4100 U	400 U	390 U	430 U	390 U
Benzaldehyde				4100 U	400 U	390 U	430 U	15 J
Benzo(a)anthracene	500000	4000	2000	920 J	3100 (C)	5900 (BC)	20000 (BC)	270 J
Benzo(a)pyrene	100000	660	8000	1000 J (B)	3400 J (B)	5000 (B)	12000 (BC)	240 J
Benzo(b)fluoranthene	50000	4000	5000	1400 J	5100 J (BC)	5400 (BC)	11000 (BC)	380 J
Benzo(g,h,i)perylene			4200000	580 J	1900	2800 J	3100	140 J
Benzo(k)fluoranthene	500000	4000	49000	630 J	2200	4000 (B)	11000 (B)	140 J
Biphenyl				210 J	190 J	51 J	390 J	390 U
Bromophenyl-4 Phenyl Ether				4100 U	400 U	390 U	430 U	390 U
Butylbenzyl phthalate	100000		930000	4100 U	370 J	390 U	430 U	390 U
Caprolactam				4100 U	400 U	390 U	430 U	390 U
Carbazole			600	200 J	800 (C)	390 J	3200 (C)	49 J
Chloroaniline-4			700	4100 U	400 U	390 U	430 U	390 U
Chloronaphthalene-2				4100 U	400 U	390 U	430 U	390 U
Chlorophenol-2	10000		4000	4100 U	400 U	390 U	430 U	390 U
Chlorophenyl-4 phenyl ether				4100 U	400 U	390 U	430 U	390 U
Chrysene	500000	40000	160000	1100 J	3900 J	5700	20000	280 J
Cresol-4,6-dinitro-ortho				10000 U	1000 UJ	980 R	1100 R	990 UJ
Cresol-o			15000	4100 U	400 U	390 U	47 J	390 U
Cresol-p				220 J	400 U	390 U	130 J	390 U
Cresol-parachloro-meta	100000		4000	4100 U	400 U	390 U	430 U	390 U
Dibenzo(a,h)anthracene	100000	660	2000	330 J	730 (B)	1200 J (B)	1900 J (B)	43 J
Dibenzofuran				100 J	460	350 J	3400	20 J
Dichlorobenzidine-3,3	100000		7	4100 U	400 U	390 R	430 U	390 U
Dichlorophenol-2,4	10000		1000	4100 U	400 U	390 U	430 U	390 U

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05/20/2004
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-08	MA-SB-09	MA-SB-106	MA-SB-108	MA-SB-11
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB08-S	MA-SB09-S	MA-SB106-S	MA-SB108-S	MA-SB11-S
Sample Date				10/16/2001	10/15/2001	10/22/2001	10/22/2001	10/15/2001
Sample Interval				6.5 - 7 ft	3 - 3.5 ft	5 - 5.5 ft	4.5 - 5 ft	N/A
CLP Sample ID				B0DA8	B0D90	B0DG8	B0DG0	B0D92
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	4100 U	400 U	390 U	84 J	390 U
Dinitrophenol-2,4	10000		300	10000 U	1000 UJ	980 R	1100 R	990 UJ
Dinitrotoluene-2,4			0.8	4100 U	400 U	390 U	430 U	390 U
Dinitrotoluene-2,6			0.7	4100 U	400 U	390 U	430 U	390 U
Ether, bis(2-chloroethyl)	10000		0.4	4100 U	400 U	390 U	430 U	390 U
Ether, bis-chloroisopropyl	10000			4100 U	400 U	390 U	430 U	390 U
Fluoranthene	100000	10000000	4300000	2300 J	7600 J	8900	43000	610
Fluorene	100000		560000	4100 U	1000	560	4900 J	38 J
Hexachlorobenzene	100000		2000	4100 U	400 U	390 U	430 U	390 U
Hexachlorobutadiene	100000		2000	4100 U	400 U	390 U	430 U	390 U
Hexachlorocyclopentadiene	100000		400000	4100 U	400 UJ	390 U	430 U	390 UJ
Hexachloroethane	100000		500	4100 U	400 U	390 U	430 U	390 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	730 J	2300	3100 J	6300 J (B)	170 J
Isophorone	50000		500	4100 U	940 (C)	390 U	430 U	390 U
Methane, bis(2-chloroethoxy)				4100 U	400 U	390 U	430 U	390 U
Methylnaphthalene-2				4100 U	6000 J	270 J	1400	11 J
Naphthalene	100000	4200000	84000	2200 J	89000 (C)	440	1200	210 J
Nitroaniline-2				10000 U	1000 U	980 U	1100 U	990 U
Nitroaniline-3				10000 U	1000 U	980 UJ	1100 UJ	990 U
Nitroaniline-4				10000 U	1000 U	980 UJ	1100 UJ	990 U
Nitrobenzene	10000		100	4100 U	400 U	390 U	430 U	390 U
Nitrophenol-2				4100 U	400 U	390 U	430 U	390 U
Nitrophenol-4				10000 U	1000 U	980 U	1100 U	990 U
Nitroso-di-n-propyl-amine-N	10000		0.05	4100 U	400 U	390 U	430 U	390 U
Nitrosodiphenylamine-n	100000		1000	500 J	400 U	390 U	430 U	390 U
PCP (Pentachlorophenol)	100000		30	10000 U	1000 U	980 UJ	1100 UJ	990 U
Phenanthrene			4200000	1500 J	5800 J	5400	53000	360 J
Phenol	50000		100000	4100 U	400 U	390 U	430 U	390 U
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		9600	32000	390 UJ	210 J	390 U

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Criteria
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-08	MA-SB-09	MA-SB-106	MA-SB-108	MA-SB-11
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB08-S	MA-SB09-S	MA-SB106-S	MA-SB108-S	MA-SB11-S
Sample Date			F20	10/16/2001	10/15/2001	10/22/2001	10/22/2001	10/15/2001
Sample Interval				6.5 - 7 ft	3 - 3.5 ft	5 - 5.5 ft	4.5 - 5 ft	N/A
CLP Sample ID				B0DA8	B0D90	B0DG8	B0DG0	B0D92
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	4100 U	92000	83 J	110 J	390 U
Phthalate, di-n-octyl	100000		10000000	4100 U	590	390 R	430 R	390 U
Phthalate, diethyl	50000			4100 U	400 U	390 U	430 U	390 U
Phthalate, dimethyl	50000			4100 U	400 U	390 U	430 U	390 U
Pyrene	100000	10000000	4200000	1400 J	6700 J	11000	52000	460
Trichlorophenol-2,4,5	50000		270000	10000 U	1000 U	980 U	1100 U	990 U
Trichlorophenol-2,4,6	10000		200	4100 U	400 U	390 U	430 U	390 U

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(A, B, C) - Exceeds criteria
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NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-112	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB112-S	MA-SB118-S	MA-SB120-S	MA-SB122-S	MA-SB124-S
Sample Date			F20	10/17/2001	10/18/2001	10/19/2001	10/16/2001	10/17/2001
Sample Interval				4 - 4.5 ft	4.5 - 5 ft	2 - 2.5 ft	8 - 8.5 ft	4 - 4.5 ft
CLP Sample ID				B0DC2	B0DD6	B0DE7	B0DB2	B0DB5
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	410 U	55 J	13000 UJ	22 J	520
Acenaphthylene			4200000	16 J	48 J	480 J	440 U	60 J
Acetophenone				20 J	1200 U	13000 UJ	350 J	250 J
Anthracene	100000		12000000	19 J	170 J	420 J	55 J	1100
Atrazine				410 U	1200 U	13000 UJ	440 U	410 U
Benzaldehyde				31 J	1200 U	13000 UJ	440 U	670
Benzo(a)anthracene	500000	4000	2000	66 J	550 J	13000 UJ	140 J	2000 (C)
Benzo(a)pyrene	100000	660	8000	76 J	610 J	13000 UJ	150 J	1700 (B)
Benzo(b)fluoranthene	50000	4000	5000	120 J	740 J	13000 UJ	190 J	2000
Benzo(g,h,i)perylene			4200000	65 J	270 J	13000 UJ	81 J	170 J
Benzo(k)fluoranthene	500000	4000	49000	70 J	520 J	13000 UJ	150 J	1200
Biphenyl				410 U	1200 U	13000 UJ	440 U	1500
Bromophenyl-4 Phenyl Ether				410 U	1200 U	13000 UJ	440 U	410 U
Butylbenzyl phthalate	100000		930000	410 U	1200 U	13000 UJ	440 U	2900
Caprolactam				410 U	1200 U	13000 UJ	440 U	410 U
Carbazole			600	13 J	84 J	13000 UJ	27 J	400 J
Chloroaniline-4			700	410 U	1200 U	13000 UJ	440 U	410 U
Chloronaphthalene-2				410 U	1200 U	13000 UJ	440 U	410 U
Chlorophenol-2	10000		4000	410 U	1200 U	13000 UJ	440 U	410 U
Chlorophenyl-4 phenyl ether				410 U	1200 U	13000 UJ	440 U	410 U
Chrysene	500000	40000	160000	110 J	560 J	13000 UJ	180 J	2100
Cresol-4,6-dinitro-ortho				1000 UJ	3000 U	32000 UJ	1100 U	1000 UJ
Cresol-o			15000	410 U	1200 U	13000 UJ	440 U	1400
Cresol-p				410 U	1200 U	13000 UJ	440 U	3800 J
Cresol-parachloro-meta	100000		4000	410 U	1200 U	13000 UJ	440 U	410 U
Dibenzo(a,h)anthracene	100000	660	2000	19 J	120 J	13000 UJ	47 J	280 J
Dibenzofuran				10 J	41 J	13000 UJ	23 J	440
Dichlorobenzidine-3,3	100000		7	410 UJ	1200 U	13000 UJ	440 U	410 UJ
Dichlorophenol-2,4	10000		1000	410 U	1200 U	13000 UJ	440 U	410 U

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

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Station ID	(A)	(B)	(C)	MA-SB-112	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB112-S	MA-SB118-S	MA-SB120-S	MA-SB122-S	MA-SB124-S
Sample Date				10/17/2001	10/18/2001	10/19/2001	10/16/2001	10/17/2001
Sample Interval				4 - 4.5 ft	4.5 - 5 ft	2 - 2.5 ft	8 - 8.5 ft	4 - 4.5 ft
CLP Sample ID				B0DC2	B0DD6	B0DE7	B0DB2	B0DB5
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	410 U	1200 U	13000 UJ	440 U	410 U
Dinitrophenol-2,4	10000		300	1000 UJ	3000 U	32000 UJ	1100 U	1000 UJ
Dinitrotoluene-2,4			0.8	410 U	1200 U	13000 UJ	440 U	410 U
Dinitrotoluene-2,6			0.7	410 U	1200 U	13000 UJ	440 U	410 U
Ether, bis(2-chloroethyl)	10000		0.4	410 U	1200 U	13000 UJ	440 U	410 U
Ether, bis-chloroisopropyl	10000			410 U	1200 U	13000 UJ	440 U	410 U
Fluoranthene	100000	10000000	4300000	200 J	1100 J	370 J	290 J	3500 J
Fluorene	100000		560000	12 J	69 J	13000 UJ	43 J	620
Hexachlorobenzene	100000		2000	410 U	1200 U	13000 UJ	440 U	410 U
Hexachlorobutadiene	100000		2000	410 U	1200 U	13000 UJ	440 U	410 U
Hexachlorocyclopentadiene	100000		400000	410 UJ	1200 UJ	13000 UJ	440 U	410 UJ
Hexachloroethane	100000		500	410 U	1200 U	13000 UJ	440 U	410 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	66 J	360 J	13000 UJ	110 J	1000
Isophorone	50000		500	410 U	1200 U	13000 UJ	440 U	410 U
Methane, bis(2-chloroethoxy)				410 U	1200 U	13000 UJ	440 U	410 U
Methylnaphthalene-2				33 J	1200 U	13000 UJ	89 J	370 J
Naphthalene	100000	4200000	84000	42 J	150 J	13000 UJ	1500	430
Nitroaniline-2				1000 U	3000 U	32000 UJ	1100 U	1000 U
Nitroaniline-3				1000 U	3000 U	32000 UJ	1100 U	1000 U
Nitroaniline-4				1000 U	3000 UJ	32000 UJ	1100 U	1000 U
Nitrobenzene	10000		100	410 U	1200 U	13000 UJ	440 U	410 U
Nitrophenol-2				410 U	1200 U	13000 UJ	440 U	410 U
Nitrophenol-4				1000 U	3000 U	32000 UJ	1100 U	1000 U
Nitroso-di-n-propyl-amine-N	10000		0.05	410 UJ	1200 UJ	13000 UJ	440 U	410 UJ
Nitrosodiphenylamine-n	100000		1000	410 U	1200 U	13000 UJ	440 U	410 U
PCP (Pentachlorophenol)	100000		30	1000 U	3000 UJ	32000 UJ	1100 U	1000 U
Phenanthrene			4200000	170 J	820 J	13000 UJ	290 J	4400 J
Phenol	50000		100000	410 U	1200 U	13000 UJ	170 J	2900
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		700	1200 U	94000 J	1800	81000

B- Analyte detected in associated blank
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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-112	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB112-S	MA-SB118-S	MA-SB120-S	MA-SB122-S	MA-SB124-S
Sample Date				10/17/2001	10/18/2001	10/19/2001	10/16/2001	10/17/2001
Sample Interval				4 - 4.5 ft	4.5 - 5 ft	2 - 2.5 ft	8 - 8.5 ft	4 - 4.5 ft
CLP Sample ID				B0DC2	B0DD6	B0DE7	B0DB2	B0DB5
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	410 U	1200 U	130000 J (A)	73 J	380 J
Phthalate, di-n-octyl	100000		10000000	410 U	1200 U	13000 UJ	250 J	410 U
Phthalate, diethyl	50000			410 U	1200 UJ	13000 UJ	440 U	770
Phthalate, dimethyl	50000			410 U	1200 U	13000 UJ	440 U	410 U
Pyrene	100000	10000000	4200000	140 J	970 J	13000 UJ	220 J	2800
Trichlorophenol-2,4,5	50000		270000	1000 U	3000 U	32000 UJ	1100 U	1000 U
Trichlorophenol-2,4,6	10000		200	410 U	1200 UJ	13000 UJ	440 U	410 U

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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB13-S	MA-SB130-S	MA-SB131-S	MA-SB14-S	MA-SB29-S-5.0
Sample Date				10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				8.5 - 9 ft	5 - 5.5 ft	5 - 5.5 ft	9 - 9.5 ft	5 - 5.5 ft
CLP Sample ID				B0DF6	B0DC1	B0DF1	B0D98	B0DX7
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	19 J	1200	410 U	430 U	13000 UJ
Acenaphthylene			4200000	490 UJ	44 J	410 U	430 U	13000 UJ
Acetophenone				54 J	600 U	270 J	430 U	13000 UJ
Anthracene	100000		12000000	29 J	1600	410 U	430 U	13000 UJ
Atrazine				490 UJ	600 U	410 U	430 U	13000 UJ
Benzaldehyde				490 UJ	160 J	22 J	430 U	13000 UJ
Benzo(a)anthracene	500000	4000	2000	100 J	1600	23 J	430 U	1400 J
Benzo(a)pyrene	100000	660	8000	110 J	1400 (B)	20 J	430 U	1400 J (B)
Benzo(b)fluoranthene	50000	4000	5000	160 J	1600	52 J	21 J	13000 UJ
Benzo(g,h,i)perylene			4200000	88 J	600	65 J	430 U	13000 UJ
Benzo(k)fluoranthene	500000	4000	49000	61 J	1100	410 U	430 U	1300 J
Biphenyl				25 J	100 J	410 U	430 U	13000 UJ
Bromophenyl-4 Phenyl Ether				490 UJ	600 U	410 U	430 U	13000 UJ
Butylbenzyl phthalate	100000		930000	490 UJ	600 U	60 J	430 U	13000 UJ
Caprolactam				490 UJ	600 U	410 U	430 U	13000 UJ
Carbazole			600	14 J	600 (C)	410 U	430 U	13000 UJ
Chloroaniline-4			700	490 UJ	600 U	410 U	430 U	13000 UJ
Chloronaphthalene-2				490 UJ	600 U	410 U	430 U	13000 UJ
Chlorophenol-2	10000		4000	490 UJ	600 U	410 U	430 U	13000 UJ
Chlorophenyl-4 phenyl ether				490 UJ	600 U	410 U	430 U	13000 UJ
Chrysene	500000	40000	160000	120 J	1700	45 J	27 J	1700 J
Cresol-4,6-dinitro-ortho				1200 UJ	1500 UJ	1000 U	1100 U	31000 UJ
Cresol-o			15000	38 J	600 U	52 J	430 U	13000 UJ
Cresol-p				110 J	280 J	56 J	430 U	13000 UJ
Cresol-parachloro-meta	100000		4000	490 UJ	600 U	410 U	430 U	13000 UJ
Dibenzo(a,h)anthracene	100000	660	2000	22 J	250 J	410 U	430 U	13000 UJ
Dibenzofuran				11 J	840	410 U	430 U	13000 UJ
Dichlorobenzidine-3,3	100000		7	490 UJ	600 UJ	410 U	430 U	13000 UJ
Dichlorophenol-2,4	10000		1000	490 UJ	600 U	410 U	430 U	13000 UJ

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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB13-S	MA-SB130-S	MA-SB131-S	MA-SB14-S	MA-SB29-S-5.0
Sample Date				10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				8.5 - 9 ft	5 - 5.5 ft	5 - 5.5 ft	9 - 9.5 ft	5 - 5.5 ft
CLP Sample ID				B0DF6	B0DC1	B0DF1	B0D98	B0DX7
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	490 UJ	600 U	30 J	430 U	13000 UJ
Dinitrophenol-2,4	10000		300	1200 UJ	1500 UJ	1000 UJ	1100 U	31000 UJ
Dinitrotoluene-2,4			0.8	490 UJ	600 U	410 U	430 U	13000 UJ
Dinitrotoluene-2,6			0.7	490 UJ	600 U	410 U	430 U	13000 UJ
Ether, bis(2-chloroethyl)	10000		0.4	490 UJ	600 U	410 UJ	430 U	13000 UJ
Ether, bis-chloroisopropyl	10000			490 UJ	600 U	410 UJ	430 U	13000 UJ
Fluoranthene	100000	10000000	4300000	200 J	4400	43 J	430 U	2600 J
Fluorene	100000		560000	23 J	1300	410 U	430 U	13000 UJ
Hexachlorobenzene	100000		2000	490 UJ	600 U	410 U	430 U	13000 UJ
Hexachlorobutadiene	100000		2000	490 UJ	600 U	410 UJ	430 U	13000 UJ
Hexachlorocyclopentadiene	100000		400000	490 UJ	600 UJ	410 U	430 U	13000 UJ
Hexachloroethane	100000		500	490 UJ	600 U	410 UJ	430 U	13000 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	78 J	760	23 J	430 U	13000 UJ
Isophorone	50000		500	490 UJ	600 U	410 U	430 U	13000 UJ
Methane, bis(2-chloroethoxy)				490 UJ	600 U	410 U	430 U	13000 UJ
Methylnaphthalene-2				27 J	710	16 J	25 J	13000 UJ
Naphthalene	100000	4200000	84000	490 UJ	29000	490	53 J	13000 UJ
Nitroaniline-2				1200 UJ	1500 U	1000 UJ	1100 U	31000 UJ
Nitroaniline-3				1200 UJ	1500 U	1000 U	1100 U	31000 UJ
Nitroaniline-4				1200 UJ	1500 U	1000 U	1100 U	31000 UJ
Nitrobenzene	10000		100	490 UJ	600 U	410 U	430 U	13000 UJ
Nitrophenol-2				19 J	600 U	410 U	430 U	13000 UJ
Nitrophenol-4				1200 UJ	1500 U	1000 UJ	1100 U	31000 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	490 UJ	600 UJ	410 U	430 U	13000 UJ
Nitrosodiphenylamine-n	100000		1000	490 UJ	1700 (C)	18 J	430 U	13000 UJ
PCP (Pentachlorophenol)	100000		30	1200 UJ	1500 U	1000 U	1100 U	31000 UJ
Phenanthrene			4200000	180 J	7300	41 J	13 J	2200 J
Phenol	50000		100000	59 J	600 U	49 J	430 U	13000 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		54000 J	600 U	7900 J	430 U	13000 UJ

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Exceedences highlighted
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05/20/2004
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

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Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB13-S	MA-SB130-S	MA-SB131-S	MA-SB14-S	MA-SB29-S-5.0
Sample Date				10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				8.5 - 9 ft	5 - 5.5 ft	5 - 5.5 ft	9 - 9.5 ft	5 - 5.5 ft
CLP Sample ID				B0DF6	B0DC1	B0DF1	B0D98	B0DX7
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	120 J	28 J	110 J	430 U	13000 UJ
Phthalate, di-n-octyl	100000		10000000	490 UJ	600 U	410 U	430 U	13000 UJ
Phthalate, diethyl	50000			490 UJ	600 U	34 J	430 U	13000 UJ
Phthalate, dimethyl	50000			490 UJ	600 U	410 U	430 U	13000 UJ
Pyrene	100000	10000000	4200000	240 J	4000	34 J	430 U	2600 J
Trichlorophenol-2,4,5	50000		270000	1200 UJ	1500 U	1000 U	1100 U	31000 UJ
Trichlorophenol-2,4,6	10000		200	490 UJ	600 U	410 U	430 U	13000 UJ

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-60
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB31-S	MA-SB42-S	MA-SB47-S	MA-SB56-S	MA-SB60-S
Sample Date				10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				6.5 - 7 ft	4.5 - 5 ft	4.5 - 5 ft	8.5 - 9 ft	6.5 - 7 ft
CLP Sample ID				B0DC3	B0DC7	B0DC8	B0DA1	B0DA2
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	1500 J	390 U	400 U	150 J	32000 UJ
Acenaphthylene			4200000	3500 J	20 J	400 U	34 J	32000 UJ
Acetophenone				8100 U	390 U	400 U	410 U	32000 UJ
Anthracene	100000		12000000	6600 J	30 J	400 U	240 J	32000 UJ
Atrazine				8100 U	390 U	400 U	410 U	32000 UJ
Benzaldehyde				8100 U	10 J	13 J	410 U	32000 UJ
Benzo(a)anthracene	500000	4000	2000	27000 J (EC)	150 J	27 J	970	32000 UJ
Benzo(a)pyrene	100000	660	8000	24000 J (EC)	110 J	400 U	720 J (EC)	32000 UJ
Benzo(b)fluoranthene	50000	4000	5000	36000 J (EC)	170 J	400 U	830	32000 UJ
Benzo(g,h,i)perylene			4200000	9900	67 J	400 U	310 J	32000 UJ
Benzo(k)fluoranthene	500000	4000	49000	8100 U	130 J	19 J	570	32000 UJ
Biphenyl				380 J	390 U	400 U	52 J	32000 UJ
Bromophenyl-4 Phenyl Ether				8100 U	390 U	400 U	410 U	32000 UJ
Butylbenzyl phthalate	100000		930000	8100 U	390 U	400 U	49 J	32000 UJ
Caprolactam				8100 U	390 U	400 U	410 U	32000 UJ
Carbazole			600	2000 J (EC)	17 J	400 U	100 J	32000 UJ
Chloroaniline-4			700	8100 U	390 U	400 U	410 U	32000 UJ
Chloronaphthalene-2				8100 U	390 U	400 U	410 U	32000 UJ
Chlorophenol-2	10000		4000	8100 U	390 U	400 U	410 U	32000 UJ
Chlorophenyl-4 phenyl ether				8100 U	390 U	400 U	410 U	32000 UJ
Chrysene	500000	40000	160000	28000	160 J	400 U	910	32000 UJ
Cresol-4,6-dinitro-ortho				20000 U	980 U	1000 U	1000 U	79000 UJ
Cresol-o			15000	8100 U	390 U	400 U	410 U	32000 UJ
Cresol-p				7600 J	390 U	400 U	410 U	3000 J
Cresol-parachloro-meta	100000		4000	8100 U	390 U	400 U	410 U	32000 UJ
Dibenzo(a,h)anthracene	100000	660	2000	4100 J (EC)	37 J	400 U	140 J	32000 UJ
Dibenzofuran				2100 J	390 U	400 U	71 J	32000 UJ
Dichlorobenzidine-3,3	100000		7	8100 U	390 U	400 U	410 U	32000 UJ
Dichlorophenol-2,4	10000		1000	8100 U	390 U	400 U	410 U	32000 UJ

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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-60
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB31-S	MA-SB42-S	MA-SB47-S	MA-SB56-S	MA-SB60-S
Sample Date				10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				6.5 - 7 ft	4.5 - 5 ft	4.5 - 5 ft	8.5 - 9 ft	6.5 - 7 ft
CLP Sample ID				B0DC3	B0DC7	B0DC8	B0DA1	B0DA2
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	320 J	390 U	400 U	410 U	32000 UJ
Dinitrophenol-2,4	10000		300	20000 U	980 U	1000 U	1000 U	79000 UJ
Dinitrotoluene-2,4			0.8	8100 U	390 U	400 U	410 U	32000 UJ
Dinitrotoluene-2,6			0.7	8100 U	390 U	400 U	410 U	32000 UJ
Ether, bis(2-chloroethyl)	10000		0.4	8100 U	390 U	400 U	410 U	32000 UJ
Ether, bis-chloroisopropyl	10000			8100 U	390 U	400 U	99 J	32000 UJ
Fluoranthene	100000	1000000	4300000	49000	230 J	400 U	1400	32000 UJ
Fluorene	100000		560000	6000 J	390 U	400 U	140 J	32000 UJ
Hexachlorobenzene	100000		2000	8100 U	390 U	400 U	410 U	32000 UJ
Hexachlorobutadiene	100000		2000	8100 U	390 U	400 U	410 U	32000 UJ
Hexachlorocyclopentadiene	100000		400000	8100 UJ	390 UJ	400 UJ	410 U	32000 UJ
Hexachloroethane	100000		500	8100 U	390 U	400 U	410 U	32000 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	14000 (EC)	96 J	400 U	410 J	32000 UJ
Isophorone	50000		500	8100 U	390 U	400 U	410 U	32000 UJ
Methane, bis(2-chloroethoxy)				8100 U	390 U	400 U	410 U	32000 UJ
Methylnaphthalene-2				420 J	390 U	400 U	750	1100 J
Naphthalene	100000	4200000	84000	3000 J	16 J	400 U	750	120000 J (AC)
Nitroaniline-2				20000 U	980 U	1000 U	1000 U	79000 UJ
Nitroaniline-3				20000 U	980 U	1000 U	1000 U	79000 UJ
Nitroaniline-4				20000 UJ	980 UJ	1000 UJ	1000 U	79000 UJ
Nitrobenzene	10000		100	8100 U	390 U	400 U	410 U	32000 UJ
Nitrophenol-2				8100 U	390 U	400 U	410 U	32000 UJ
Nitrophenol-4				20000 U	980 U	1000 U	1000 U	79000 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	8100 UJ	390 UJ	400 UJ	410 U	32000 UJ
Nitrosodiphenylamine-n	100000		1000	8100 U	390 U	400 U	410 U	32000 UJ
PCP (Pentachlorophenol)	100000		30	20000 UJ	980 UJ	1000 UJ	1000 U	79000 UJ
Phenanthrene			4200000	36000	170 J	53 J	1600	32000 UJ
Phenol	50000		100000	4200 J	390 U	400 U	410 U	2200 J
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		8100 U	390 U	400 U	410 U	32000 UJ

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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-60
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB31-S	MA-SB42-S	MA-SB47-S	MA-SB56-S	MA-SB60-S
Sample Date				10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				6.5 - 7 ft	4.5 - 5 ft	4.5 - 5 ft	8.5 - 9 ft	6.5 - 7 ft
CLP Sample ID				B0DC3	B0DC7	B0DC8	B0DA1	B0DA2
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	8100 U	40 J	38 J	410 U	32000 UJ
Phthalate, di-n-octyl	100000		10000000	8100 U	390 U	400 U	21 J	32000 UJ
Phthalate, diethyl	50000			8100 UJ	390 UJ	400 UJ	410 U	32000 UJ
Phthalate, dimethyl	50000			8100 U	390 U	400 U	410 U	32000 UJ
Pyrene	100000	10000000	4200000	60000	260 J	38 J	1300	32000 UJ
Trichlorophenol-2,4,5	50000		270000	20000 U	980 U	1000 U	1000 U	79000 UJ
Trichlorophenol-2,4,6	10000		200	8100 UJ	390 UJ	400 UJ	410 U	32000 UJ

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J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68	MA-SB-69
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB62-S-5.0	MA-SB66-S-4.5	MA-SB67-S-5.0	MA-SB68-S-4.5	MA-SB69-S-2.0
Sample Date				12/12/2001	12/13/2001	12/12/2001	12/13/2001	12/12/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	2 - 2.5 ft
CLP Sample ID				B0DX2	B0FS8	B0DX3	B0DY8	B0DW8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	220 J
Acenaphthylene			4200000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Acetophenone				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Anthracene	100000		12000000	13000 UJ	4300 UJ	800 J	4400 UJ	640 J
Atrazine				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Benzaldehyde				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Benzo(a)anthracene	500000	4000	2000	13000 UJ	620 J	2200 J (C)	1800 J	1500 J
Benzo(a)pyrene	100000	660	8000	1400 J (B)	490 J	2100 J (B)	2200 J (B)	1200 J (B)
Benzo(b)fluoranthene	50000	4000	5000	1600 J	4300 UJ	1800 J	1900 J	1100 J
Benzo(g,h,i)perylene			4200000	13000 UJ	4300 UJ	890 J	1500 J	570 J
Benzo(k)fluoranthene	500000	4000	49000	1600 J	4300 UJ	2300 J	2000 J	1000 J
Biphenyl				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Bromophenyl-4 Phenyl Ether				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Butylbenzyl phthalate	100000		930000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Caprolactam				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Carbazole			600	13000 UJ	4300 UJ	3800 UJ	4400 UJ	210 J
Chloroaniline-4			700	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Chloronaphthalene-2				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Chlorophenol-2	10000		4000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Chlorophenyl-4 phenyl ether				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Chrysene	500000	40000	160000	1800 J	740 J	2600 J	2200 J	1700 J
Cresol-4,6-dinitro-ortho				33000 UJ	11000 UJ	9600 UJ	11000 UJ	4900 UJ
Cresol-o			15000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Cresol-p				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Cresol-parachloro-meta	100000		4000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Dibenzo(a,h)anthracene	100000	660	2000	13000 UJ	4300 UJ	420 J	4400 UJ	200 J
Dibenzofuran				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Dichlorobenzidine-3,3	100000		7	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Dichlorophenol-2,4	10000		1000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ

B- Analyte detected in associated blank
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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68	MA-SB-69
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB62-S-5.0	MA-SB66-S-4.5	MA-SB67-S-5.0	MA-SB68-S-4.5	MA-SB69-S-2.0
Sample Date			F20	12/12/2001	12/13/2001	12/12/2001	12/13/2001	12/12/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	2 - 2.5 ft
CLP Sample ID				B0DX2	B0FS8	B0DX3	B0DY8	B0DW8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Dinitrophenol-2,4	10000		300	33000 UJ	11000 UJ	9600 UJ	11000 UJ	4900 UJ
Dinitrotoluene-2,4			0.8	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Dinitrotoluene-2,6			0.7	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Ether, bis(2-chloroethyl)	10000		0.4	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Ether, bis-chloroisopropyl	10000			13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Fluoranthene	100000	10000000	4300000	3500 J	1400 J	4000 J	2400 J	3000 J
Fluorene	100000		560000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	240 J
Hexachlorobenzene	100000		2000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Hexachlorobutadiene	100000		2000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Hexachlorocyclopentadiene	100000		400000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Hexachloroethane	100000		500	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	13000 UJ	4300 UJ	1100 J	1400 J	580 J
Isophorone	50000		500	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Methane, bis(2-chloroethoxy)				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Methylnaphthalene-2				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Naphthalene	100000	4200000	84000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Nitroaniline-2				33000 UJ	11000 UJ	9600 UJ	11000 UJ	4900 UJ
Nitroaniline-3				33000 UJ	11000 UJ	9600 UJ	11000 UJ	4900 UJ
Nitroaniline-4				33000 UJ	11000 UJ	9600 UJ	11000 UJ	4900 UJ
Nitrobenzene	10000		100	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Nitrophenol-2				13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Nitrophenol-4				33000 UJ	11000 UJ	9600 UJ	11000 UJ	4900 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Nitrosodiphenylamine-n	100000		1000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
PCP (Pentachlorophenol)	100000		30	33000 UJ	11000 UJ	9600 UJ	11000 UJ	4900 UJ
Phenanthrene			4200000	1800 J	1100 J	3300 J	1200 J	3000 J
Phenol	50000		100000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ

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05/20/2004
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68	MA-SB-69
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB62-S-5.0	MA-SB66-S-4.5	MA-SB67-S-5.0	MA-SB68-S-4.5	MA-SB69-S-2.0
Sample Date				12/12/2001	12/13/2001	12/12/2001	12/13/2001	12/12/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	2 - 2.5 ft
CLP Sample ID				B0DX2	B0FS8	B0DX3	B0DY8	B0DW8
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Phthalate, di-n-octyl	100000		10000000	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Phthalate, diethyl	50000			13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Phthalate, dimethyl	50000			13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ
Pyrene	100000	10000000	4200000	2800 J	1100 J	3700 J	2300 J	3200 J
Trichlorophenol-2,4,5	50000		270000	33000 UJ	11000 UJ	9600 UJ	11000 UJ	4900 UJ
Trichlorophenol-2,4,6	10000		200	13000 UJ	4300 UJ	3800 UJ	4400 UJ	2000 UJ

B - Analyte detected in associated blank
J - Reported value estimated in quantity
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05/20/2004
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77	MA-SB-78
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB71-S-6.0	MA-SB72-S-6.0	MA-SB75-S-4.5	MA-SB77-S-5.0	MA-SB78-S-6.0
Sample Date				12/13/2001	12/13/2001	12/12/2001	12/12/2001	12/13/2001
Sample Interval				6 - 6.5 ft	6 - 6.5 ft	4.5 - 5 ft	5 - 5.5 ft	6 - 6.5 ft
CLP Sample ID				B0DZ4	B0DZ0	B0DX0	B0DX5	B0DY6
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	390 UJ	12000 UJ	38000 J	370 UJ	370 UJ
Acenaphthylene			4200000	390 UJ	12000 UJ	38000 J	370 UJ	370 UJ
Acetophenone				390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Anthracene	100000		12000000	390 UJ	12000 UJ	83000 J	51 J	370 UJ
Atrazine				390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Benzaldehyde				390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Benzo(a)anthracene	500000	4000	2000	220 J	12000 UJ	150000 J (BC)	140 J	260 J
Benzo(a)pyrene	100000	660	8000	220 J	12000 UJ	150000 J (ABC)	110 J	260 J
Benzo(b)fluoranthene	50000	4000	5000	230 J	12000 UJ	150000 J (ABC)	130 J	260 J
Benzo(g,h,i)perylene			4200000	110 J	12000 UJ	58000 J	370 UJ	150 J
Benzo(k)fluoranthene	500000	4000	49000	240 J	12000 UJ	140000 J (BC)	130 J	220 J
Biphenyl				390 UJ	12000 UJ	11000 J	370 UJ	370 UJ
Bromophenyl-4 Phenyl Ether				390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Butylbenzyl phthalate	100000		930000	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Caprolactam				390 UJ	12000 UJ	89000 UJ	74 J	370 UJ
Carbazole			600	390 UJ	12000 UJ	68000 J (C)	370 UJ	370 UJ
Chloroaniline-4			700	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Chloronaphthalene-2				390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Chlorophenol-2	10000		4000	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Chlorophenyl-4 phenyl ether				390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Chrysene	500000	40000	160000	330 J	12000 UJ	180000 J (BC)	170 J	290 J
Cresol-4,6-dinitro-ortho				990 UJ	30000 UJ	220000 UJ	930 UJ	940 UJ
Cresol-o			15000	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Cresol-p				390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Cresol-parachloro-meta	100000		4000	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Dibenzo(a,h)anthracene	100000	660	2000	390 UJ	12000 UJ	22000 J (BC)	370 UJ	54 J
Dibenzofuran				390 UJ	12000 UJ	71000 J	370 UJ	370 UJ
Dichlorobenzidine-3,3	100000		7	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Dichlorophenol-2,4	10000		1000	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ

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(A, B, C) - Exceeds criteria
 Exceedences highlighted
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05/20/2004
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77	MA-SB-78
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB71-S-6.0	MA-SB72-S-6.0	MA-SB75-S-4.5	MA-SB77-S-5.0	MA-SB78-S-6.0
Sample Date			F20	12/13/2001	12/13/2001	12/12/2001	12/12/2001	12/13/2001
Sample Interval				6 - 6.5 ft	6 - 6.5 ft	4.5 - 5 ft	5 - 5.5 ft	6 - 6.5 ft
CLP Sample ID				B0DZ4	B0DZ0	B0DX0	B0DX5	B0DY6
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Dinitrophenol-2,4	10000		300	990 UJ	30000 UJ	220000 UJ	930 UJ	940 UJ
Dinitrotoluene-2,4			0.8	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Dinitrotoluene-2,6			0.7	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Ether, bis(2-chloroethyl)	10000		0.4	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Ether, bis-chloroisopropyl	10000			390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Fluoranthene	100000	10000000	4300000	370 J	12000 UJ	420000 J (A)	370 J	390 J
Fluorene	100000		560000	390 UJ	12000 UJ	84000 J	370 UJ	370 UJ
Hexachlorobenzene	100000		2000	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Hexachlorobutadiene	100000		2000	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Hexachlorocyclopentadiene	100000		400000	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Hexachloroethane	100000		500	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	100 J	12000 UJ	68000 J (BC)	370 UJ	160 J
Isophorone	50000		500	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Methane, bis(2-chloroethoxy)				390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Methylnaphthalene-2				390 UJ	12000 UJ	35000 J	370 UJ	370 UJ
Naphthalene	100000	4200000	84000	140 J	12000 UJ	76000 J	310 J	370 UJ
Nitroaniline-2				990 UJ	30000 UJ	220000 UJ	930 UJ	940 UJ
Nitroaniline-3				990 UJ	30000 UJ	220000 UJ	930 UJ	940 UJ
Nitroaniline-4				990 UJ	30000 UJ	220000 UJ	930 UJ	940 UJ
Nitrobenzene	10000		100	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Nitrophenol-2				390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Nitrophenol-4				990 UJ	30000 UJ	220000 UJ	930 UJ	940 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Nitrosodiphenylamine-n	100000		1000	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
PCP (Pentachlorophenol)	100000		30	990 UJ	30000 UJ	220000 UJ	930 UJ	940 UJ
Phenanthrene			4200000	220 J	12000 UJ	480000 J	250 J	120 J
Phenol	50000		100000	390 UJ	12000 UJ	89000 UJ	140 J	370 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		81 J	12000 UJ	89000 UJ	370 UJ	67 J

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(A, B, C) - Exceeds criteria
Exceedences highlighted
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05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77	MA-SB-78
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB71-S-6.0	MA-SB72-S-6.0	MA-SB75-S-4.5	MA-SB77-S-5.0	MA-SB78-S-6.0
Sample Date				12/13/2001	12/13/2001	12/12/2001	12/12/2001	12/13/2001
Sample Interval				6 - 6.5 ft	6 - 6.5 ft	4.5 - 5 ft	5 - 5.5 ft	6 - 6.5 ft
CLP Sample ID				B0DZ4	B0DZ0	B0DX0	B0DX5	B0DY6
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	40 J	12000 UJ	89000 UJ	370 UJ	370 UJ
Phthalate, di-n-octyl	100000		10000000	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Phthalate, diethyl	50000			390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Phthalate, dimethyl	50000			390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ
Pyrene	100000	10000000	4200000	280 J	12000 UJ	350000 J (A)	320 J	400 J
Trichlorophenol-2,4,5	50000		270000	990 UJ	30000 UJ	220000 UJ	930 UJ	940 UJ
Trichlorophenol-2,4,6	10000		200	390 UJ	12000 UJ	89000 UJ	370 UJ	370 UJ

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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-79	MA-SB-81	MA-SB-82	MA-SB-85	MA-SB-96
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB79-S-5.0	MA-SB81-S	MA-SB82-S	MA-SB85-S-6.0	MA-SB96-S
Sample Date				12/13/2001	10/18/2001	10/19/2001	12/17/2001	10/22/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	4 - 4.5 ft	6 - 6.5 ft	4.5 - 5 ft
CLP Sample ID				B0DZ2	B0DE0	B0DE3	B0FW7	B0DG6
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	370 UJ	1800	690 J	370 UJ	400 U
Acenaphthylene			4200000	43 J	150 J	290 J	370 UJ	400 U
Acetophenone				370 UJ	750 U	1900 U	370 UJ	400 U
Anthracene	100000		12000000	82 J	3000	1400 J	370 UJ	400 U
Atrazine				370 UJ	750 U	1900 U	370 UJ	400 U
Benzaldehyde				370 UJ	750 UJ	1900 UJ	370 UJ	620
Benzo(a)anthracene	500000	4000	2000	290 J	5400 (BC)	5000 (BC)	52 J	46 J
Benzo(a)pyrene	100000	660	8000	240 J	4800 (B)	4900 (B)	370 UJ	44 J
Benzo(b)fluoranthene	50000	4000	5000	210 J	6600 (BC)	6300 (BC)	370 UJ	400 U
Benzo(g,h,i)perylene			4200000	120 J	2000	2400	370 UJ	65 J
Benzo(k)fluoranthene	500000	4000	49000	270 J	2200	2000	42 J	400 U
Biphenyl				370 UJ	120 J	95 J	370 UJ	400 U
Bromophenyl-4 Phenyl Ether				370 UJ	750 U	1900 U	370 UJ	400 U
Butylbenzyl phthalate	100000		930000	370 UJ	750 UJ	1900 UJ	370 UJ	400 UJ
Caprolactam				370 UJ	750 U	1900 U	370 UJ	400 U
Carbazole			600	42 J	1900 (C)	690 J (C)	370 UJ	400 UJ
Chloroaniline-4			700	370 UJ	750 U	1900 U	370 UJ	400 U
Chloronaphthalene-2				370 UJ	750 U	1900 U	370 UJ	400 U
Chlorophenol-2	10000		4000	370 UJ	750 U	1900 U	370 UJ	400 U
Chlorophenyl-4 phenyl ether				370 UJ	750 U	1900 U	370 UJ	400 U
Chrysene	500000	40000	160000	330 J	5600	6100	57 J	130 J
Cresol-4,6-dinitro-ortho				940 UJ	1900 U	4700 U	930 UJ	1000 R
Cresol-o			15000	370 UJ	750 U	1900 U	370 UJ	400 U
Cresol-p				370 UJ	750 U	1900 U	370 UJ	400 U
Cresol-parachloro-meta	100000		4000	370 UJ	750 U	1900 U	370 UJ	400 U
Dibenzo(a,h)anthracene	100000	660	2000	42 J	690 J (B)	770 J (B)	370 UJ	400 U
Dibenzofuran				370 UJ	1300	510 J	370 UJ	400 U
Dichlorobenzidine-3,3	100000		7	370 UJ	750 U	1900 U	370 UJ	400 R
Dichlorophenol-2,4	10000		1000	370 UJ	750 U	1900 U	370 UJ	400 U

B - Analyte detected in associated blank
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-79	MA-SB-81	MA-SB-82	MA-SB-85	MA-SB-96
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB79-S-5.0	MA-SB81-S	MA-SB82-S	MA-SB85-S-6.0	MA-SB96-S
Sample Date			F20	12/13/2001	10/18/2001	10/19/2001	12/17/2001	10/22/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	4 - 4.5 ft	6 - 6.5 ft	4.5 - 5 ft
CLP Sample ID				B0DZ2	B0DE0	B0DE3	B0FW7	B0DG6
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	370 UJ	750 U	1900 U	370 UJ	400 U
Dinitrophenol-2,4	10000		300	940 UJ	1900 UJ	4700 UJ	930 UJ	1000 R
Dinitrotoluene-2,4			0.8	370 UJ	750 U	1900 U	370 UJ	400 U
Dinitrotoluene-2,6			0.7	370 UJ	750 U	1900 U	370 UJ	400 U
Ether, bis(2-chloroethyl)	10000		0.4	370 UJ	750 UJ	1900 UJ	370 UJ	400 U
Ether, bis-chloroisopropyl	10000			370 UJ	750 UJ	1900 UJ	370 UJ	400 U
Fluoranthene	100000	10000000	4300000	580 J	14000	9900	92 J	49 J
Fluorene	100000		560000	370 UJ	1700	800 J	370 UJ	400 U
Hexachlorobenzene	100000		2000	370 UJ	750 U	1900 U	370 UJ	400 U
Hexachlorobutadiene	100000		2000	370 UJ	750 UJ	1900 UJ	370 UJ	400 U
Hexachlorocyclopentadiene	100000		400000	370 UJ	750 U	1900 U	370 UJ	400 U
Hexachloroethane	100000		500	370 UJ	750 UJ	1900 UJ	370 UJ	400 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	120 J	2600	2900	370 UJ	400 UJ
Isophorone	50000		500	370 UJ	750 U	1900 U	370 UJ	400 U
Methane, bis(2-chloroethoxy)				370 UJ	750 U	1900 U	370 UJ	400 U
Methylnaphthalene-2				370 UJ	450 J	490 J	370 UJ	400 U
Naphthalene	100000	4200000	84000	370 UJ	780	1300 J	370 UJ	400 U
Nitroaniline-2				940 UJ	1900 UJ	4700 UJ	930 UJ	1000 U
Nitroaniline-3				940 UJ	1900 U	4700 U	930 UJ	1000 UJ
Nitroaniline-4				940 UJ	1900 U	4700 U	930 UJ	1000 UJ
Nitrobenzene	10000		100	370 UJ	750 U	1900 U	370 UJ	400 U
Nitrophenol-2				370 UJ	750 U	1900 U	370 UJ	400 U
Nitrophenol-4				940 UJ	1900 UJ	4700 UJ	930 UJ	1000 U
Nitroso-di-n-propyl-amine-N	10000		0.05	370 UJ	750 U	1900 U	370 UJ	400 U
Nitrosodiphenylamine-n	100000		1000	370 UJ	750 U	1900 U	370 UJ	400 U
PCP (Pentachlorophenol)	100000		30	940 UJ	1900 U	4700 U	930 UJ	1000 U
Phenanthrene			4200000	360 J	17000	9300	89 J	82 J
Phenol	50000		100000	370 UJ	750 U	1900 U	370 UJ	400 U
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		370 UJ	750 U	1900 U	43 J	360 J

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Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-79	MA-SB-81	MA-SB-82	MA-SB-85	MA-SB-96
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB79-S-5.0	MA-SB81-S	MA-SB82-S	MA-SB85-S-6.0	MA-SB96-S
Sample Date				12/13/2001	10/18/2001	10/19/2001	12/17/2001	10/22/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	4 - 4.5 ft	6 - 6.5 ft	4.5 - 5 ft
CLP Sample ID				B0DZ2	B0DE0	B0DE3	B0FW7	B0DG6
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	370 UJ	41 J	40 J	370 UJ	56 J
Phthalate, di-n-octyl	100000		10000000	370 UJ	750 U	1900 U	370 UJ	400 UJ
Phthalate, diethyl	50000			370 UJ	750 U	1900 U	370 UJ	400 U
Phthalate, dimethyl	50000			370 UJ	750 U	1900 U	370 UJ	400 U
Pyrene	100000	10000000	4200000	460 J	12000	11000	82 J	77 J
Trichlorophenol-2,4,5	50000		270000	940 UJ	1900 U	4700 U	930 UJ	1000 U
Trichlorophenol-2,4,6	10000		200	370 UJ	750 U	1900 U	370 UJ	400 U

B - Analyte detected in associated blank
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-97	MA-SB-98	MA-SO-201	MA-SO-202	MA-SO-203
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB97-S	MA-SB98-S	MA-SO201-S	MA-SO202-S-13	MA-SO203-S
Sample Date				10/22/2001	10/22/2001	10/17/2001	12/14/2001	10/19/2001
Sample Interval				4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	13 - 13.5 ft	4 - 4.5 ft
CLP Sample ID				B0DG4	B0DH1	B0DB6	B0FT1	B0DF2
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	380 U	460 U	12000 U	390 UJ	350 U
Acenaphthylene			4200000	380 U	460 U	12000 U	390 UJ	350 U
Acetophenone				380 U	460 U	12000 U	390 UJ	52 J
Anthracene	100000		12000000	380 U	60 J	640 J	390 UJ	10 J
Atrazine				380 U	460 U	12000 U	390 UJ	350 U
Benzaldehyde				380 U	460 U	12000 U	390 UJ	350 UJ
Benzo(a)anthracene	500000	4000	2000	100 J	270 J	1700 J	390 UJ	55 J
Benzo(a)pyrene	100000	660	8000	82 J	250 J	12000 U	390 UJ	75 J
Benzo(b)fluoranthene	50000	4000	5000	100 J	280 J	12000 U	390 UJ	120 J
Benzo(g,h,i)perylene			4200000	380 UJ	89 J	12000 U	390 UJ	350 U
Benzo(k)fluoranthene	500000	4000	49000	95 J	230 J	730 J	390 UJ	33 J
Biphenyl				380 U	460 U	13000	390 UJ	86 J
Bromophenyl-4 Phenyl Ether				380 U	460 U	12000 U	390 UJ	350 U
Butylbenzyl phthalate	100000		930000	380 UJ	460 UJ	21000	390 UJ	380 J
Caprolactam				380 U	460 U	12000 U	390 UJ	350 U
Carbazole			600	380 UJ	460 UJ	12000 U	390 UJ	350 U
Chloroaniline-4			700	380 U	460 U	12000 U	390 UJ	350 U
Chloronaphthalene-2				380 U	460 U	12000 U	390 UJ	350 U
Chlorophenol-2	10000		4000	380 U	460 U	12000 U	390 UJ	350 U
Chlorophenyl-4 phenyl ether				380 U	460 U	12000 U	390 UJ	350 U
Chrysene	500000	40000	160000	130 J	300 J	12000 U	390 UJ	130 J
Cresol-4,6-dinitro-ortho				950 R	1200 R	30000 U	980 UJ	870 U
Cresol-o			15000	380 U	460 U	4100 J	390 UJ	100 J
Cresol-p				380 U	460 U	3200 J	390 UJ	59 J
Cresol-parachloro-meta	100000		4000	380 U	460 U	12000 U	390 UJ	350 U
Dibenzo(a,h)anthracene	100000	660	2000	380 U	460 U	12000 U	390 UJ	13 J
Dibenzofuran				380 U	460 U	410 J	390 UJ	8 J
Dichlorobenzidine-3,3	100000		7	380 R	460 R	12000 U	390 UJ	350 U
Dichlorophenol-2,4	10000		1000	380 U	460 U	12000 U	390 UJ	350 U

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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-97	MA-SB-98	MA-SO-201	MA-SO-202	MA-SO-203
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB97-S	MA-SB98-S	MA-SO201-S	MA-SO202-S-13	MA-SO203-S
Sample Date				10/22/2001	10/22/2001	10/17/2001	12/14/2001	10/19/2001
Sample Interval				4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	13 - 13.5 ft	4 - 4.5 ft
CLP Sample ID				B0DG4	B0DH1	B0DB6	B0FT1	B0DF2
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	380 U	460 U	12000 U	390 UJ	350 U
Dinitrophenol-2,4	10000		300	950 R	1200 R	30000 U	980 UJ	870 UJ
Dinitrotoluene-2,4			0.8	380 U	460 U	12000 U	390 UJ	350 U
Dinitrotoluene-2,6			0.7	380 U	460 U	12000 U	390 UJ	350 U
Ether, bis(2-chloroethyl)	10000		0.4	380 U	460 U	12000 U	390 UJ	350 UJ
Ether, bis-chloroisopropyl	10000			380 U	460 U	12000 U	390 UJ	32 J
Fluoranthene	100000	10000000	4300000	160 J	410 J	3300 J	390 UJ	120 J
Fluorene	100000		560000	380 U	460 U	12000 U	390 UJ	350 U
Hexachlorobenzene	100000		2000	380 U	460 U	12000 U	390 UJ	350 U
Hexachlorobutadiene	100000		2000	380 U	460 U	12000 U	390 UJ	350 UJ
Hexachlorocyclopentadiene	100000		400000	380 U	460 U	12000 UJ	390 UJ	350 U
Hexachloroethane	100000		500	380 U	460 U	12000 U	390 UJ	350 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	53 J	140 J	12000 U	390 UJ	28 J
Isophorone	50000		500	380 U	460 U	12000 U	390 UJ	16 J
Methane, bis(2-chloroethoxy)				380 U	460 U	12000 U	390 UJ	350 U
Methylnaphthalene-2				380 U	460 U	4600 J	390 UJ	38 J
Naphthalene	100000	4200000	84000	380 U	460 U	56000	390 UJ	350 U
Nitroaniline-2				950 U	1200 U	30000 U	980 UJ	870 UJ
Nitroaniline-3				950 UJ	1200 UJ	30000 U	980 UJ	870 U
Nitroaniline-4				950 UJ	1200 UJ	30000 UJ	980 UJ	870 U
Nitrobenzene	10000		100	380 U	460 U	12000 U	390 UJ	350 U
Nitrophenol-2				380 U	460 U	12000 U	390 UJ	350 U
Nitrophenol-4				950 U	1200 U	30000 U	980 UJ	870 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	380 U	460 U	12000 UJ	390 UJ	350 U
Nitrosodiphenylamine-n	100000		1000	380 U	460 U	12000 U	390 UJ	350 U
PCP (Pentachlorophenol)	100000		30	950 U	1200 U	30000 UJ	980 UJ	870 U
Phenanthrene			4200000	110 J	210 J	4600 J	390 UJ	100 J
Phenol	50000		100000	380 U	460 U	16000	390 UJ	60 J
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		680 J	210 J	90000	59 J	490 U

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05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-97	MA-SB-98	MA-SO-201	MA-SO-202	MA-SO-203
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB97-S	MA-SB98-S	MA-SO201-S	MA-SO202-S-13	MA-SO203-S
Sample Date				10/22/2001	10/22/2001	10/17/2001	12/14/2001	10/19/2001
Sample Interval				4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	13 - 13.5 ft	4 - 4.5 ft
CLP Sample ID				B0DG4	B0DH1	B0DB6	B0FT1	B0DF2
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	380 U	96 J	16000	390 UJ	39 J
Phthalate, di-n-octyl	100000		10000000	380 UJ	460 UJ	12000 U	390 UJ	350 U
Phthalate, diethyl	50000			380 U	460 U	12000 J	390 UJ	53 J
Phthalate, dimethyl	50000			380 U	460 U	12000 U	390 UJ	11 J
Pyrene	100000	10000000	4200000	180 J	440 J	2900 J	390 UJ	93 J
Trichlorophenol-2,4,5	50000		270000	950 U	1200 U	30000 U	980 UJ	870 U
Trichlorophenol-2,4,6	10000		200	380 U	460 U	12000 UJ	390 UJ	350 U

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05/20/2004
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Criteria
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-204	MA-SO-206	MA-SO-207	MA-SO-208	MA-SO-209
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO204-S-5.0	MA-SO206-S-5.0	MA-SO207-S	MA-SO208-S	MA-SO209-S
Sample Date				12/17/2001	12/17/2001	10/22/2001	10/22/2001	10/22/2001
Sample Interval				5 - 5.5 ft	5 - 5.5 ft	4.5 - 5 ft	4.5 - 5 ft	5 - 5.5 ft
CLP Sample ID				B0FW6	B0FT9	B0DG9	B0DH5	B0DH7
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	3800 UJ	380 U	380 U	390 U	350 U
Acenaphthylene			4200000	3800 UJ	380 U	380 U	390 U	350 U
Acetophenone				3800 UJ	380 U	380 U	390 U	350 U
Anthracene	100000		12000000	3800 UJ	380 U	380 U	100 J	350 U
Atrazine				3800 UJ	380 U	380 U	390 U	350 U
Benzaldehyde				3800 UJ	380 UJ	380 U	390 U	350 U
Benzo(a)anthracene	500000	4000	2000	540 J	91 J	380 U	330 J	58 J
Benzo(a)pyrene	100000	660	8000	430 J	80 J	380 U	300 J	63 J
Benzo(b)fluoranthene	50000	4000	5000	430 J	81 J	380 U	370 J	67 J
Benzo(g,h,i)perylene			4200000	3800 UJ	56 J	100 J	140 J	50 J
Benzo(k)fluoranthene	500000	4000	49000	390 J	88 J	380 U	330 J	67 J
Biphenyl				3800 UJ	380 U	380 U	390 U	350 U
Bromophenyl-4 Phenyl Ether				3800 UJ	380 U	380 U	390 U	350 U
Butylbenzyl phthalate	100000		930000	3800 UJ	380 U	380 UJ	130 J	350 U
Caprolactam				3800 UJ	380 U	380 U	390 U	350 U
Carbazole			600	3800 UJ	380 U	380 UJ	390 UJ	350 UJ
Chloroaniline-4			700	3800 UJ	380 U	380 U	390 U	350 U
Chloronaphthalene-2				3800 UJ	380 U	380 U	390 U	350 U
Chlorophenol-2	10000		4000	3800 UJ	380 U	380 U	390 U	350 U
Chlorophenyl-4 phenyl ether				3800 UJ	380 U	380 U	390 U	350 U
Chrysene	500000	40000	160000	590 J	100 J	40 J	380 J	76 J
Cresol-4,6-dinitro-ortho				9600 UJ	950 U	970 R	980 R	880 R
Cresol-o			15000	3800 UJ	380 U	380 U	390 U	350 U
Cresol-p				3800 UJ	380 U	380 U	390 U	350 U
Cresol-parachloro-meta	100000		4000	3800 UJ	380 U	380 U	390 U	350 U
Dibenzo(a,h)anthracene	100000	660	2000	3800 UJ	380 U	380 U	56 J	350 U
Dibenzofuran				3800 UJ	380 U	380 U	390 U	350 U
Dichlorobenzidine-3,3	100000		7	3800 UJ	380 U	380 R	390 R	350 J (C)
Dichlorophenol-2,4	10000		1000	3800 UJ	380 U	380 U	390 U	350 U

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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-204	MA-SO-206	MA-SO-207	MA-SO-208	MA-SO-209
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO204-S-5.0	MA-SO206-S-5.0	MA-SO207-S	MA-SO208-S	MA-SO209-S
Sample Date				12/17/2001	12/17/2001	10/22/2001	10/22/2001	10/22/2001
Sample Interval				5 - 5.5 ft	5 - 5.5 ft	4.5 - 5 ft	4.5 - 5 ft	5 - 5.5 ft
CLP Sample ID				B0FW6	B0FT9	B0DG9	B0DH5	B0DH7
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	3800 UJ	380 U	380 U	390 U	350 U
Dinitrophenol-2,4	10000		300	9600 UJ	950 U	970 R	980 R	880 R
Dinitrotoluene-2,4			0.8	3800 UJ	380 U	380 U	390 U	350 U
Dinitrotoluene-2,6			0.7	3800 UJ	380 U	380 U	390 U	350 U
Ether, bis(2-chloroethyl)	10000		0.4	3800 UJ	380 U	380 U	390 U	350 U
Ether, bis-chloroisopropyl	10000			3800 UJ	380 U	380 U	390 U	350 U
Fluoranthene	100000	10000000	4300000	1200 J	210 J	50 J	630	82 J
Fluorene	100000		560000	3800 UJ	380 U	380 U	390 U	350 U
Hexachlorobenzene	100000		2000	3800 UJ	380 U	380 U	390 U	350 U
Hexachlorobutadiene	100000		2000	3800 UJ	380 U	380 U	390 U	350 U
Hexachlorocyclopentadiene	100000		400000	3800 UJ	380 U	380 U	390 U	350 U
Hexachloroethane	100000		500	3800 UJ	380 U	380 U	390 U	350 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	3800 UJ	380 U	380 UJ	180 J	49 J
Isophorone	50000		500	3800 UJ	380 U	380 U	390 U	350 U
Methane, bis(2-chloroethoxy)				3800 UJ	380 U	380 U	390 U	350 U
Methylnaphthalene-2				3800 UJ	380 U	380 U	390 U	350 U
Naphthalene	100000	4200000	84000	3800 UJ	380 U	380 U	390 U	350 U
Nitroaniline-2				9600 UJ	950 U	970 U	980 U	880 U
Nitroaniline-3				9600 UJ	950 U	970 UJ	980 UJ	880 UJ
Nitroaniline-4				9600 UJ	950 U	970 UJ	980 UJ	880 UJ
Nitrobenzene	10000		100	3800 UJ	380 U	380 U	390 U	350 U
Nitrophenol-2				3800 UJ	380 U	380 U	390 U	350 U
Nitrophenol-4				9600 UJ	950 U	970 U	980 U	880 U
Nitroso-di-n-propyl-amine-N	10000		0.05	3800 UJ	380 U	380 U	390 U	350 U
Nitrosodiphenylamine-n	100000		1000	3800 UJ	380 U	380 U	390 U	350 U
PCP (Pentachlorophenol)	100000		30	9600 UJ	950 U	970 U	980 U	880 U
Phenanthrene			4200000	1000 J	140 J	380 U	480	42 J
Phenol	50000		100000	3800 UJ	380 U	380 U	390 U	350 U
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		3800 UJ	380 U	270 J	400 J	75 J

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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

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Station ID	(A)	(B)	(C)	MA-SO-204	MA-SO-206	MA-SO-207	MA-SO-208	MA-SO-209
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO204-S-5.0	MA-SO206-S-5.0	MA-SO207-S	MA-SO208-S	MA-SO209-S
Sample Date				12/17/2001	12/17/2001	10/22/2001	10/22/2001	10/22/2001
Sample Interval				5 - 5.5 ft	5 - 5.5 ft	4.5 - 5 ft	4.5 - 5 ft	5 - 5.5 ft
CLP Sample ID				B0FW6	B0FT9	B0DG9	B0DH5	B0DH7
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	3800 UJ	380 U	380 U	68 J	350 U
Phthalate, di-n-octyl	100000		10000000	3800 UJ	380 U	380 UJ	390 UJ	350 UJ
Phthalate, diethyl	50000			3800 UJ	380 U	380 U	390 U	350 U
Phthalate, dimethyl	50000			3800 UJ	380 U	380 U	390 U	350 U
Pyrene	100000	10000000	4200000	1000 J	170 J	54 J	710	90 J
Trichlorophenol-2,4,5	50000		270000	9600 UJ	950 U	970 U	980 U	880 U
Trichlorophenol-2,4,6	10000		200	3800 UJ	380 U	380 U	390 U	350 U

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U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

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EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-211	MA-SO-212	MA-SO-213	MA-SO-214	MA-SO-301
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO211-S-4.5	MA-SO212-S-5.0	MA-SO213-S-5.5	MA-SO214-S	MA-SO301-S-5.0
Sample Date				12/14/2001	12/14/2001	12/14/2001	10/18/2001	12/13/2001
Sample Interval				4.5 - 5 ft	5 - 5.5 ft	5.5 - 6 ft	4 - 4.5 ft	5 - 5.5 ft
CLP Sample ID				B0FT3	B0FT6	B0FW0	B0DC9	B0DY1
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	1900 UJ	440 UJ	410 UJ	51 J	7800 UJ
Acenaphthylene			4200000	1900 UJ	440 UJ	410 UJ	11 J	7800 UJ
Acetophenone				2000 UJ	440 UJ	410 UJ	390 U	7800 UJ
Anthracene	100000		12000000	1900 UJ	440 UJ	410 UJ	110 J	7800 UJ
Atrazine				1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Benzaldehyde				1900 UJ	440 UJ	410 UJ	13 J	7800 UJ
Benzo(a)anthracene	500000	4000	2000	200 J	440 UJ	410 UJ	270 J	840 J
Benzo(a)pyrene	100000	660	8000	1900 UJ	440 UJ	410 UJ	230 J	7800 UJ
Benzo(b)fluoranthene	50000	4000	5000	1900 UJ	440 UJ	410 UJ	320 J	7800 UJ
Benzo(g,h,i)perylene			4200000	1900 UJ	440 UJ	410 UJ	110 J	7800 UJ
Benzo(k)fluoranthene	500000	4000	49000	1900 UJ	440 UJ	410 UJ	140 J	7800 UJ
Biphenyl				1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Bromophenyl-4 Phenyl Ether				1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Butylbenzyl phthalate	100000		930000	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Caprolactam				1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Carbazole			600	1900 UJ	440 UJ	410 UJ	42 J	7800 UJ
Chloroaniline-4			700	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Chloronaphthalene-2				1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Chlorophenol-2	10000		4000	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Chlorophenyl-4 phenyl ether				1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Chrysene	500000	40000	160000	470 J	440 UJ	410 UJ	270 J	930 J
Cresol-4,6-dinitro-ortho				4800 UJ	1100 UJ	1000 UJ	980 UJ	20000 UJ
Cresol-o			15000	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Cresol-p				1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Cresol-parachloro-meta	100000		4000	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Dibenzo(a,h)anthracene	100000	660	2000	1900 UJ	440 UJ	410 UJ	70 J	7800 UJ
Dibenzofuran				1900 UJ	440 UJ	410 UJ	31 J	7800 UJ
Dichlorobenzidine-3,3	100000		7	1900 UJ	440 UJ	410 UJ	390 UJ	7800 UJ
Dichlorophenol-2,4	10000		1000	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-211	MA-SO-212	MA-SO-213	MA-SO-214	MA-SO-301
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO211-S-4.5	MA-SO212-S-5.0	MA-SO213-S-5.5	MA-SO214-S	MA-SO301-S-5.0
Sample Date				12/14/2001	12/14/2001	12/14/2001	10/18/2001	12/13/2001
Sample Interval				4.5 - 5 ft	5 - 5.5 ft	5.5 - 6 ft	4 - 4.5 ft	5 - 5.5 ft
CLP Sample ID				B0FT3	B0FT6	B0FW0	B0DC9	B0DY1
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Dinitrophenol-2,4	10000		300	4800 UJ	1100 UJ	1000 UJ	980 UJ	20000 UJ
Dinitrotoluene-2,4			0.8	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Dinitrotoluene-2,6			0.7	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Ether, bis(2-chloroethyl)	10000		0.4	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Ether, bis-chloroisopropyl	10000			1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Fluoranthene	100000	10000000	4300000	1900 UJ	62 J	410 UJ	570	1800 J
Fluorene	100000		560000	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Hexachlorobenzene	100000		2000	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Hexachlorobutadiene	100000		2000	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Hexachlorocyclopentadiene	100000		400000	1900 UJ	440 UJ	410 UJ	390 UJ	7800 UJ
Hexachloroethane	100000		500	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Indeno(1,2,3-cd)pyrene	500000	4000	14000	1900 UJ	440 UJ	410 UJ	160 J	7800 UJ
Isophorone	50000		500	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Methane, bis(2-chloroethoxy)				1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Methylnaphthalene-2				400 J	440 UJ	410 UJ	16 J	7800 UJ
Naphthalene	100000	4200000	84000	1900 UJ	440 UJ	56 J	34 J	7800 UJ
Nitroaniline-2				4800 UJ	1100 UJ	1000 UJ	980 U	20000 UJ
Nitroaniline-3				4800 UJ	1100 UJ	1000 UJ	980 U	20000 UJ
Nitroaniline-4				4800 UJ	1100 UJ	1000 UJ	980 U	20000 UJ
Nitrobenzene	10000		100	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Nitrophenol-2				1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Nitrophenol-4				4800 UJ	1100 UJ	1000 UJ	980 U	20000 UJ
Nitroso-di-n-propyl-amine-N	10000		0.05	1900 UJ	440 UJ	410 UJ	390 UJ	7800 UJ
Nitrosodiphenylamine-n	100000		1000	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
PCP (Pentachlorophenol)	100000		30	4800 UJ	1100 UJ	1000 UJ	980 U	20000 UJ
Phenanthrene			4200000	400 J	70 J	410 UJ	520	2000 J
Phenol	50000		100000	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		1900 UJ	56 J	49 J	390 U	7800 UJ

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-211	MA-SO-212	MA-SO-213	MA-SO-214	MA-SO-301
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO211-S-4.5	MA-SO212-S-5.0	MA-SO213-S-5.5	MA-SO214-S	MA-SO301-S-5.0
Sample Date				12/14/2001	12/14/2001	12/14/2001	10/18/2001	12/13/2001
Sample Interval				4.5 - 5 ft	5 - 5.5 ft	5.5 - 6 ft	4 - 4.5 ft	5 - 5.5 ft
CLP Sample ID				B0FT3	B0FT6	B0FW0	B0DC9	B0DY1
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	1900 UJ	440 UJ	410 UJ	33 J	7800 UJ
Phthalate, di-n-octyl	100000		10000000	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Phthalate, diethyl	50000			1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Phthalate, dimethyl	50000			1900 UJ	440 UJ	410 UJ	390 U	7800 UJ
Pyrene	100000	10000000	4200000	240 J	49 J	410 UJ	410	1600 J
Trichlorophenol-2,4,5	50000		270000	4800 UJ	1100 UJ	1000 UJ	980 U	20000 UJ
Trichlorophenol-2,4,6	10000		200	1900 UJ	440 UJ	410 UJ	390 U	7800 UJ

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
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Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-402	MA-SO-403
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO302-S-6.0	MA-SO303-S-6.0	MA-SO401-S-10.0	MA-SO402-S-10.5	MA-SO403-S-10.0
Sample Date				12/12/2001	12/13/2001	12/17/2001	12/17/2001	12/17/2001
Sample Interval				6 - 6.5 ft	6 - 6.5 ft	10 - 10.5 ft	10.5 - 11 ft	10 - 10.5 ft
CLP Sample ID				B0AY2	B0DY4	B0FW9	B0FX0	B0FX1
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Acenaphthene	100000		570000	390 UJ	1700 J	360 UJ	350 U	350 U
Acenaphthylene			4200000	390 UJ	780 J	360 UJ	350 U	350 U
Acetophenone				390 UJ	3900 UJ	360 UJ	350 U	350 U
Anthracene	100000		12000000	390 UJ	5200 J	360 UJ	350 U	350 U
Atrazine				390 UJ	3900 UJ	360 UJ	350 U	350 U
Benzaldehyde				390 UJ	3900 UJ	360 UJ	350 UJ	350 UJ
Benzo(a)anthracene	500000	4000	2000	130 J	9200 J (BC)	360 UJ	350 U	350 U
Benzo(a)pyrene	100000	660	8000	110 J	7000 J (B)	360 UJ	350 U	350 U
Benzo(b)fluoranthene	50000	4000	5000	110 J	6400 J (BC)	360 UJ	350 U	350 U
Benzo(g,h,i)perylene			4200000	64 J	1000 J	360 UJ	350 U	350 U
Benzo(k)fluoranthene	500000	4000	49000	130 J	5700 J (B)	360 UJ	350 U	350 U
Biphenyl				390 UJ	3900 UJ	360 UJ	350 U	350 U
Bromophenyl-4 Phenyl Ether				390 UJ	3900 UJ	360 UJ	350 U	350 U
Butylbenzyl phthalate	100000		930000	390 UJ	3900 UJ	360 UJ	350 U	350 U
Caprolactam				390 UJ	3900 UJ	360 UJ	350 U	350 U
Carbazole			600	390 UJ	2000 J (C)	360 UJ	350 U	350 U
Chloroaniline-4			700	390 UJ	3900 UJ	360 UJ	350 U	350 U
Chloronaphthalene-2				390 UJ	3900 UJ	360 UJ	350 U	350 U
Chlorophenol-2	10000		4000	390 UJ	3900 UJ	360 UJ	350 U	350 U
Chlorophenyl-4 phenyl ether				390 UJ	3900 UJ	360 UJ	350 U	350 U
Chrysene	500000	40000	160000	150 J	8700 J	360 UJ	350 U	350 U
Cresol-4,6-dinitro-ortho				980 UJ	9900 UJ	890 UJ	870 U	890 U
Cresol-o			15000	390 UJ	3900 UJ	360 UJ	350 U	350 U
Cresol-p				390 UJ	3900 UJ	360 UJ	350 U	350 U
Cresol-parachloro-meta	100000		4000	390 UJ	3900 UJ	360 UJ	350 U	350 U
Dibenzo(a,h)anthracene	100000	660	2000	390 UJ	800 J (B)	360 UJ	350 U	350 U
Dibenzofuran				390 UJ	1800 J	360 UJ	350 U	350 U
Dichlorobenzidine-3,3	100000		7	390 UJ	3900 UJ	360 UJ	350 U	350 U
Dichlorophenol-2,4	10000		1000	390 UJ	3900 UJ	360 UJ	350 U	350 U

B - Analyte detected in associated blank
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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-402	MA-SO-403
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO302-S-6.0	MA-SO303-S-6.0	MA-SO401-S-10.0	MA-SO402-S-10.5	MA-SO403-S-10.0
Sample Date				12/12/2001	12/13/2001	12/17/2001	12/17/2001	12/17/2001
Sample Interval				6 - 6.5 ft	6 - 6.5 ft	10 - 10.5 ft	10.5 - 11 ft	10 - 10.5 ft
CLP Sample ID				B0AY2	B0DY4	B0FW9	B0FX0	B0FX1
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Dimethylphenol-2,4	10000		9000	390 UJ	3900 UJ	360 UJ	350 U	350 U
Dinitrophenol-2,4	10000		300	980 UJ	9900 UJ	890 UJ	870 U	890 U
Dinitrotoluene-2,4			0.8	390 UJ	3900 UJ	360 UJ	350 U	350 U
Dinitrotoluene-2,6			0.7	390 UJ	3900 UJ	360 UJ	350 U	350 U
Ether, bis(2-chloroethyl)	10000		0.4	390 UJ	3900 UJ	360 UJ	350 U	350 U
Ether, bis-chloroisopropyl	10000			390 UJ	3900 UJ	360 UJ	350 U	350 U
Fluoranthene	100000	10000000	4300000	280 J	15000 J	360 UJ	350 U	350 U
Fluorene	100000		560000	390 UJ	2800 J	360 UJ	350 U	350 U
Hexachlorobenzene	100000		2000	390 UJ	3900 UJ	360 UJ	350 U	350 U
Hexachlorobutadiene	100000		2000	390 UJ	3900 UJ	360 UJ	350 U	350 U
Hexachlorocyclopentadiene	100000		400000	390 UJ	3900 UJ	360 UJ	350 U	350 U
Hexachloroethane	100000		500	390 UJ	3900 UJ	360 UJ	350 U	350 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	69 J	1800 J	360 UJ	350 U	350 U
Isophorone	50000		500	390 UJ	3900 UJ	360 UJ	350 U	350 U
Methane, bis(2-chloroethoxy)				390 UJ	3900 UJ	360 UJ	350 U	350 U
Methylnaphthalene-2				390 UJ	800 J	360 UJ	350 U	350 U
Naphthalene	100000	4200000	84000	390 UJ	1200 J	360 UJ	350 U	350 U
Nitroaniline-2				980 UJ	9900 UJ	890 UJ	870 U	890 U
Nitroaniline-3				980 UJ	9900 UJ	890 UJ	870 U	890 U
Nitroaniline-4				980 UJ	9900 UJ	890 UJ	870 U	890 U
Nitrobenzene	10000		100	390 UJ	3900 UJ	360 UJ	350 U	350 U
Nitrophenol-2				390 UJ	3900 UJ	360 UJ	350 U	350 U
Nitrophenol-4				980 UJ	9900 UJ	890 UJ	870 U	890 U
Nitroso-di-n-propyl-amine-N	10000		0.05	390 UJ	3900 UJ	360 UJ	350 U	350 U
Nitrosodiphenylamine-n	100000		1000	390 UJ	3900 UJ	360 UJ	350 U	350 U
PCP (Pentachlorophenol)	100000		30	980 UJ	9900 UJ	890 UJ	870 U	890 U
Phenanthrene			4200000	240 J	15000 J	360 UJ	350 U	350 U
Phenol	50000		100000	390 UJ	3900 UJ	360 UJ	350 U	350 U
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		48 J	3900 UJ	68 J	350 U	350 U

B - Analyte detected in associated blank
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R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-402	MA-SO-403
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO302-S-6.0	MA-SO303-S-6.0	MA-SO401-S-10.0	MA-SO402-S-10.5	MA-SO403-S-10.0
Sample Date				12/12/2001	12/13/2001	12/17/2001	12/17/2001	12/17/2001
Sample Interval				6 - 6.5 ft	6 - 6.5 ft	10 - 10.5 ft	10.5 - 11 ft	10 - 10.5 ft
CLP Sample ID				B0AY2	B0DY4	B0FW9	B0FX0	B0FX1
Chemical Name								
Semivolatile Organic Compounds (ug/Kg)								
Phthalate, di-n-butyl	100000		2300000	390 UJ	3900 UJ	360 UJ	350 U	350 U
Phthalate, di-n-octyl	100000		10000000	390 UJ	3900 UJ	360 UJ	350 U	350 U
Phthalate, diethyl	50000			390 UJ	3900 UJ	360 UJ	350 U	350 U
Phthalate, dimethyl	50000			390 UJ	3900 UJ	360 UJ	350 U	350 U
Pyrene	100000	10000000	4200000	240 J	14000 J	360 UJ	350 U	350 U
Trichlorophenol-2,4,5	50000		270000	980 UJ	9900 UJ	890 UJ	870 U	890 U
Trichlorophenol-2,4,6	10000		200	390 UJ	3900 UJ	360 UJ	350 U	350 U

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO404-S-8.5
Sample Date				12/17/2001
Sample Interval				8.5 - 9 ft
CLP Sample ID				B0FX3
Chemical Name				
Semivolatile Organic Compounds (ug/Kg)				
Acenaphthene	100000		570000	350 U
Acenaphthylene			4200000	350 U
Acetophenone				350 U
Anthracene	100000		12000000	92 J
Atrazine				350 U
Benzaldehyde				350 UJ
Benzo(a)anthracene	500000	4000	2000	230 J
Benzo(a)pyrene	100000	660	8000	180 J
Benzo(b)fluoranthene	50000	4000	5000	160 J
Benzo(g,h,i)perylene			4200000	92 J
Benzo(k)fluoranthene	500000	4000	49000	200 J
Biphenyl				350 U
Bromophenyl-4 Phenyl Ether				350 U
Butylbenzyl phthalate	100000		930000	350 U
Caprolactam				350 U
Carbazole			600	47 J
Chloroaniline-4			700	350 U
Chloronaphthalene-2				350 U
Chlorophenol-2	10000		4000	350 U
Chlorophenyl-4 phenyl ether				350 U
Chrysene	500000	40000	160000	250 J
Cresol-4,6-dinitro-ortho				860 U
Cresol-o			15000	350 U
Cresol-p				350 U
Cresol-parachloro-meta	100000		4000	350 U
Dibenzo(a,h)anthracene	100000	660	2000	350 U
Dibenzofuran				350 U
Dichlorobenzidine-3,3	100000		7	350 U
Dichlorophenol-2,4	10000		1000	350 U

B - Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO404-S-8.5
Sample Date				12/17/2001
Sample Interval				8.5 - 9 ft
CLP Sample ID				B0FX3
Chemical Name				
Semivolatile Organic Compounds (ug/Kg)				
Dimethylphenol-2,4	10000		9000	350 U
Dinitrophenol-2,4	10000		300	860 U
Dinitrotoluene-2,4			0.8	350 U
Dinitrotoluene-2,6			0.7	350 U
Ether, bis(2-chloroethyl)	10000		0.4	350 U
Ether, bis-chloroisopropyl	10000			350 U
Fluoranthene	100000	10000000	4300000	500
Fluorene	100000		560000	41 J
Hexachlorobenzene	100000		2000	350 U
Hexachlorobutadiene	100000		2000	350 U
Hexachlorocyclopentadiene	100000		400000	350 U
Hexachloroethane	100000		500	350 U
Indeno(1,2,3-cd)pyrene	500000	4000	14000	94 J
Isophorone	50000		500	350 U
Methane, bis(2-chloroethoxy)				350 U
Methylnaphthalene-2				350 U
Naphthalene	100000	4200000	84000	350 U
Nitroaniline-2				860 U
Nitroaniline-3				860 U
Nitroaniline-4				860 U
Nitrobenzene	10000		100	350 U
Nitrophenol-2				350 U
Nitrophenol-4				860 U
Nitroso-di-n-propyl-amine-N	10000		0.05	350 U
Nitrosodiphenylamine-n	100000		1000	350 U
PCP (Pentachlorophenol)	100000		30	860 U
Phenanthrene			4200000	410
Phenol	50000		100000	350 U
Phthalate, bis(2-ethylhexyl) (DEHP)	100000	210000		350 U

B- Analyte detected in associated blank
J - Reported value estimated in quantity
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.6
Subsurface Soil - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO404-S-8.5
Sample Date				12/17/2001
Sample Interval				8.5 - 9 ft
CLP Sample ID				B0FX3
Chemical Name				
Semivolatile Organic Compounds (ug/Kg)				
Phthalate, di-n-butyl	100000		2300000	350 U
Phthalate, di-n-octyl	100000		10000000	350 U
Phthalate, diethyl	50000			350 U
Phthalate, dimethyl	50000			350 U
Pyrene	100000	10000000	4200000	410
Trichlorophenol-2,4,5	50000		270000	860 U
Trichlorophenol-2,4,6	10000		200	350 U

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-12S	MA-MW-13S	MA-MW-14S	MA-MW-14S	MA-MW-15S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-MW-12S-S	MA-MW-13S-S	MA-MW-14S-S-9	MA-MW-14S-S-9D	MA-MW-15S-S
Sample Date			F20	10/30/2001	10/30/2001	01/10/2002	01/10/2002	10/29/2001
Sample Interval				5.4 - 15.4 ft	6.6 - 16.6 ft	7 - 20 ft	7 - 20 ft	6.8 - 16.8 ft
CLP Sample ID				MB0990	MB0985	MB0EY6	MB0EY3	MB0989
Chemical Name								
Metals (mg/Kg)								
Aluminum				4450	7300	3270	2350	4690
Antimony		340	5	2.3 U	2.2 U	6.5 BJ (C)	9.5 BJ (C)	4.9 B
Arsenic		20	29	19	31.8 (BC)	32 (BC)	46.8 (BC)	10.3
Barium		47000	1600	376	7880 (C)	18.5 B	27.8 B	138
Beryllium			63	3.2 J	0.72 B	0.5 B	0.42 B	0.62 B
Cadmium		100	8	8.1 (C)	8.1 (C)	0.23 U	0.24 U	0.47 B
Calcium				32600	4030	1470	2600	37800
Chromium		20	38	71.9 (BC)	30.3 (B)	20 (B)	20.8 (B)	15.5
Cobalt				10 B	10.2 B	1.6 B	1.8 B	2.1 B
Copper		600		53.1	29.7	13.4	17.6	13.2
Iron				9510	39000	16100	10200	5070
Lead		600		239	324	116	155	123
Magnesium				2540	1910	463 B	496 B	6470
Manganese				190	187	21.9	26.6	323
Mercury		270		0.13 U	0.12 U	0.06 UJ	0.06 UJ	0.26
Nickel		2400	130	29.9	9 B	4.2 B	4 B	4 B
Potassium				505 B	337 B	538 B	336 B	795 B
Selenium			5	1.4	5.2 (C)	0.95 BJ	0.96 UJ	1.1 U
Silver		4100	34	1.5 U	1.4 U	0.23 U	0.65 B	1.3 U
Sodium				366 B	414 B	655 BJ	412 BJ	374 B
Thallium		2		1.8 U	1.7 U	1.2 B	0.96 U	1.6 U
Vanadium		7100	6000	18.2	17.4	29.6	18.3	265
Zinc		1500	12000	341	3140 (B)	23.1	21.5	10.9

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Exceedences highlighted
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05/20/2004
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Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-16S	MA-MW-17S	MA-MW-18S	MA-MW-18S	MA-MW-19S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-16S-S	MA-MW-17S-S-4.5	MA-MW-18S-S-5	MA-MW-18S-S-5D	MA-MW-19S-S-3
Sample Date				10/29/2001	11/07/2001	11/06/2001	11/06/2001	11/06/2001
Sample Interval				6.5 - 16.5 ft	8 - 18 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	5.05 - 15.05 ft
CLP Sample ID				MB0988	MB09M2	MB0982	MB0983	MB0984
Chemical Name								
Metals (mg/Kg)								
Aluminum				3960	2580	6410	3650	2970
Antimony		340	5	5.8 B (C)	4.3 B	2.2 U	2.2 U	2.2 U
Arsenic		20	29	129 (BC)	11.9	10.5	7.4	14.4
Barium		47000	1600	2080 (C)	4090 (C)	24400 (C)	13300 (C)	14600 (C)
Beryllium			63	0.58 B	0.53 B	0.83 B	0.53 B	0.59 B
Cadmium		100	8	0.46 B	6.7	0.95 B	0.54 B	5.3
Calcium				2880	3680	7830	2680	3560
Chromium		20	38	1080 (BC)	20.1 (B)	56.2 (BC)	14.6	7.8
Cobalt				5.9 B	6.2 B	16.6	9.1 B	11.6 B
Copper		600		44.8	127	104	92.8	113
Iron				15600	14500	12000	8990	10200
Lead		600		278	786 (B)	380	330	3370 (B)
Magnesium				1280	1250	1740	818 B	386 B
Manganese				150	196	263	99.4	93.8
Mercury		270		0.95	2.2 J	0.46 J	0.6 J	0.45 J
Nickel		2400	130	9.9	24.5	18.8	13.3	9.2 B
Potassium				487 B	246 B	764 B	474 B	387 B
Selenium			5	1.1 U	1 U	1.2 U	1.2 U	1.2 U
Silver		4100	34	1.3 U	1.2 U	1.4 U	1.4 U	1.4 U
Sodium				124 B	114 B	256 B	191 B	370 B
Thallium		2		1.6 U	1.5 U	1.7 U	1.7 U	1.7 U
Vanadium		7100	6000	12.4	17.4	23	18.3	14.7
Zinc		1500	12000	364	641 J	1170 J	982 J	2750 J (B)

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Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
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Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-20S	MA-MW-21S	MA-SB-02	MA-SB-04	MA-SB-06
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-20S-S-7	MA-MW-21S-S-10	MA-SB02-S	MA-SB04-S	MA-SB06-S
Sample Date				11/07/2001	01/10/2002	10/18/2001	10/16/2001	10/15/2001
Sample Interval				7.9 - 17.9 ft	10 - 21 ft	4.5 - 5 ft	5 - 5.5 ft	5 - 5.5 ft
CLP Sample ID				MB09M1	MB0EY4	MB0CJ3	MB0CG2	MB0CF1
Chemical Name								
Metals (mg/Kg)								
Aluminum				3470	3830	3000	6130	25500 J
Antimony		340	5	2 U	1.3 BJ	0.86 UJ	1.2 BJ	41 J (C)
Arsenic		20	29	5.3	7.2	148 (BC)	34.4 (BC)	920 J (BC)
Barium		47000	1600	31.6 B	137	991	615	17600 J (C)
Beryllium			63	0.5 B	0.31 B	0.48 B	0.7 B	0.83 BJ
Cadmium		100	8	0.17 U	0.33 B	1 B	1.6	18.5 J (C)
Calcium				1100	2370	13100	22900	72400 J
Chromium		20	38	10.2	30.1 (B)	30.3 (B)	34.7 (B)	21300 J (BC)
Cobalt				4.1 B	2.4 B	3 B	6.2 B	8.8 BJ
Copper		600		6	17.5	30.6	46.9	603 J (B)
Iron				10100	7240	14000	8540	40000 J
Lead		600		8.2	277	647 (B)	211	1140 J (B)
Magnesium				919 B	1340	2250 J	5050	6620 J
Manganese				98	60.9	373	474 J	349 J
Mercury		270		0.11 U	0.82 J	0.23	0.98	224 J
Nickel		2400	130	6 B	6.7 B	9.2 B	12.8	95.4 J
Potassium				522 B	324 B	473 B	711 B	2850 J
Selenium			5	1.1 U	0.91 U	1.3	1 U	3.1 J
Silver		4100	34	1.3 U	0.23 U	0.23 U	0.21 U	0.91 BJ
Sodium				61.6 U	340 BJ	859 BJ	762 BJ	8820 J
Thallium		2		1.6 U	1.1 B	1.2 UJ	1.1 UJ	2.1 UJ
Vanadium		7100	6000	13.6	14.8	13.5	14.4	90.8 J
Zinc		1500	12000	23.9 J	340	411	179 J	3790 J (B)

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Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-08	MA-SB-09	MA-SB-106	MA-SB-108	MA-SB-11
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB08-S	MA-SB09-S	MA-SB106-S	MA-SB108-S	MA-SB11-S
Sample Date				10/16/2001	10/15/2001	10/22/2001	10/22/2001	10/15/2001
Sample Interval				6.5 - 7 ft	3 - 3.5 ft	5 - 5.5 ft	4.5 - 5 ft	N/A
CLP Sample ID				MB0CF8	MB0CE6	MB0CM0	MB0CL3	MB0CF0
Chemical Name								
Metals (mg/Kg)								
Aluminum				5550	3340	3050	4690	1150
Antimony		340	5	5.6 BJ (C)	5.4 BJ (C)	1.3 B	2.2 B	1.4 BJ
Arsenic		20	29	4340 (BC)	39.5 (BC)	10.6	15.9	165 (BC)
Barium		47000	1600	989	333	9450 J (C)	18300 J (C)	4320 (C)
Beryllium			63	0.76 B	0.23 B	0.44 B	0.58 B	-0.23 B
Cadmium		100	8	0.84 B	1 B	8 (C)	5.7	0.59 B
Calcium				45400	28100	11800	12900	1160 B
Chromium		20	38	44.1 (BC)	129 (BC)	8.6	22.4 (B)	224 (BC)
Cobalt				4.6 B	2.9 B	6.7 B	9.7 B	4.9 B
Copper		600		37.2	67.9	92	97.6	38.4
Iron				12300	12800	11000	20600	36100
Lead		600		103	7.15 (B)	4800 (B)	9950 (B)	864 (B)
Magnesium				27200	3830	5800 J	2900 J	347 B
Manganese				293 J	114 J	152	551	11.8 J
Mercury		270		2	5.8	0.44	0.48	0.33
Nickel		2400	130	11.2	12.9	12.7	19.6	13.1
Potassium				822 B	524 B	290 B	474 B	354 B
Selenium			5	1.2 U	1.3	1.7 J	2 J	4.1
Silver		4100	34	0.26 U	0.27 B	0.23 BJ	0.24 UJ	0.24 U
Sodium				2610 J	611 BJ	223 B	149 B	671 BJ
Thallium		2		1.3 UJ	1.2 UJ	1.1 U	1.9 B	1.3 UJ
Vanadium		7100	6000	18.7	22.4	11 B	18.2	20.9
Zinc		1500	12000	170 J	228 J	4250 (B)	1770 (B)	196 J

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Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-112	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB112-S	MA-SB118-S	MA-SB120-S	MA-SB122-S	MA-SB124-S
Sample Date				10/17/2001	10/18/2001	10/19/2001	10/16/2001	10/17/2001
Sample Interval				4 - 4.5 ft	4.5 - 5 ft	2 - 2.5 ft	8 - 8.5 ft	4 - 4.5 ft
CLP Sample ID				MB0CG6	MB0CJ4	MB0CK3	MB0CG4	MB0CG8
Chemical Name								
Metals (mg/Kg)								
Aluminum				3320	3990	4180	2230	7330
Antimony		340	5	4.1 BJ	2.1 BJ	1.8 BJ	19.4 BJ (C)	1.4 BJ
Arsenic		20	29	78.9 (BC)	280 (BC)	24.7 J (B)	44.70 (BC)	120 (BC)
Barium		47000	1600	498	1450	925	785	15900 (C)
Beryllium			63	0.53 B	0.54 B	0.47 B	0.14 U	0.6 B
Cadmium		100	8	6	1.7	2.4	0.56 B	1.6
Calcium				10600	17100	13500	186000	4080
Chromium		20	38	293 (BC)	631 (BC)	217 (BC)	268 (BC)	1770 (BC)
Cobalt				7.1 B	4.4 B	7.8 B	1.9 B	9.6 B
Copper		600		235	81	86.8	37.5	90.8
Iron				16200	12800	28100	4300	28300
Lead		600		716 (B)	239	538	183	435
Magnesium				2020 J	3950 J	5770	99800	1540 J
Manganese				189	106	289	220 J	87.3
Mercury		270		1.7	3.8	0.89 J	0.54	0.84
Nickel		2400	130	14.8	11.4	62.7	3.2 B	22.2
Potassium				600 B	387 B	404 B	348 B	985 B
Selenium			5	1.9	2.2	1.2 B	1.7 U	2.3
Silver		4100	34	0.29 U	0.24 B	0.25 U	0.34 U	0.23 U
Sodium				1850 J	743 BJ	987 B	1240 BJ	1040 BJ
Thallium		2		1.5 UJ	1.2 UJ	1.3 UR	1.8 UJ	1.2 UJ
Vanadium		7100	6000	15	21.2	28.2	6.9 B	22.5
Zinc		1500	12000	1040	354	560	328 J	596

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Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB13-S	MA-SB130-S	MA-SB131-S	MA-SB14-S	MA-SB29-S-5.0
Sample Date				10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				8.5 - 9 ft	5 - 5.5 ft	5 - 5.5 ft	9 - 9.5 ft	5 - 5.5 ft
CLP Sample ID				MB0CL1	MB0CH3	MB0CK6	MB0CE8	MB0CZ7
Chemical Name								
Metals (mg/Kg)								
Aluminum				13100	2700 J	8370	2910	4530
Antimony		340	5	1.1 UJ	19.8 BJ (C)	0.93 UJ	0.86 UJ	2.3 J
Arsenic		20	29	31.3 J (BC)	3390 J (BC)	198 J (BC)	11.3	55.4 (BC)
Barium		47000	1600	133	1270 J	18500 (C)	6390 (C)	504 J
Beryllium			63	0.85 B	0.52 BJ	0.74 B	0.16 B	0.14 B
Cadmium		100	8	0.12 U	3.8 J	4.4	0.98 B	1.1 B
Calcium				5200	116000 J	3920	483 B	35500
Chromium		20	38	205 (BC)	2300 J (BC)	23.6 (B)	132 (BC)	33 J (B)
Cobalt				5.8 B	2.9 BJ	4.5 B	2.9 B	3.8 B
Copper		600		53.6	554 J	40.2	15.4	235
Iron				16600	9850 J	40400	5100	18700
Lead		600		158	287 J	352	64.3	1320 (B)
Magnesium				3870	66700 J	1610	689 B	13000
Manganese				139	215 J	128	32.7 J	132 J
Mercury		270		0.16 J	1.6 J	0.17 J	0.31	1.1
Nickel		2400	130	15.7	7.6 BJ	13	5.1 B	36.8 R
Potassium				1100 B	341 BJ	517 B	350 B	616 B
Selenium			5	1.4 U	2 UJ	2.7	1.1 U	1.4
Silver		4100	34	0.29 U	0.41 UJ	0.25 U	0.23 U	1.1 J
Sodium				629 B	2260 J	2570 J	583 BJ	1490 J
Thallium		2		1.5 UR	2.1 UJ	1.3 UR	1.2 UJ	1.3 UJ
Vanadium		7100	6000	31.3	9.6 BJ	23.3	9.1 B	23.2
Zinc		1500	12000	54.6	1430 J	2330 (B)	319 J	833 R

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Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-60
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB31-S	MA-SB42-S	MA-SB47-S	MA-SB56-S	MA-SB60-S
Sample Date				10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				6.5 - 7 ft	4.5 - 5 ft	4.5 - 5 ft	8.5 - 9 ft	6.5 - 7 ft
CLP Sample ID				MB0CH4	MB0CH7	MB0CH8	MB0CF5	MB0CF6
Chemical Name								
Metals (mg/Kg)								
Aluminum				1780	4190	1990	5010	3230
Antimony		340	5	1.3 BJ	0.88 UJ	0.87 UJ	0.92 UJ	2.1 UJ (C)
Arsenic		20	29	164 (BC)	47.1 (BC)	18.1	65.5 (BC)	23300 (BC)
Barium		47000	1600	654	233	63.3	1620 (C)	2180 (C)
Beryllium			63	0.38 B	0.55 B	0.41 B	0.31 B	0.24 B
Cadmium		100	8	0.12 B	0.39 B	0.22 B	1 B	1 B
Calcium				16500	11300	6360	19600	109000
Chromium		20	38	493 (BC)	18.2	77.6 (BC)	49 (BC)	373 (BC)
Cobalt				3 B	8.1 B	3.1 B	3.3 B	2.7 B
Copper		600		94.7	2590 (B)	908 (B)	68.9	35.4
Iron				8110	21400	3820	9720	10100
Lead		600		334	219	69.9	159	244
Magnesium				404 BJ	1840 J	783 BJ	8170	77400
Manganese				62	171	70.4	150 J	285 J
Mercury		270		0.19	0.72	0.06 B	0.67	1.4
Nickel		2400	130	8.9 B	13	10.3	8.3 B	6.5 B
Potassium				359 B	543 B	337 B	682 B	769 B
Selenium			5	1.2 B	1.6	1.1 U	1.2 U	2.5
Silver		4100	34	0.23 U	0.4 B	0.37 B	0.25 U	0.33 U
Sodium				2090 J	843 BJ	497 BJ	654 BJ	3060 J
Thallium		2		1.2 UJ	1.2 UJ	1.2 UJ	1.3 UJ	1.7 UJ
Vanadium		7100	6000	12.2	22.1	11.5 B	15.2	9.4 B
Zinc		1500	12000	64.2	119	124	182 J	635 J

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Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68	MA-SB-69
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB62-S-5.0	MA-SB66-S-4.5	MA-SB67-S-5.0	MA-SB68-S-4.5	MA-SB69-S-2.0
Sample Date				12/12/2001	12/13/2001	12/12/2001	12/13/2001	12/12/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	2 - 2.5 ft
CLP Sample ID				MB0CZ4	MB0D12	MB0CZ9	MB0D08	MB0980
Chemical Name								
Metals (mg/Kg)								
Aluminum				2720 J	5440	4280	5840	4400
Antimony		340	5	1.8 UJ	0.9 UJ	0.85 UJ	4.6 BJ	3.8 J
Arsenic		20	29	12.5 J	19.2 J	6.8	17.4 J	18
Barium		47000	1600	164 J	15600 (C)	126 J	366	1800 J (C)
Beryllium			63	0.2 UJ	0.48 B	0.17 B	0.62 B	0.24 B
Cadmium		100	8	0.54 BJ	2.6	0.56 B	0.61 B	2.5
Calcium				34500 J	7240	3880	5820	5590
Chromium		20	38	9.2 J	42.3 (BC)	11.3 J	65.8 (BC)	22.2 J (B)
Cobalt				2.9 BJ	4.1 B	3.2 B	7.9 B	5.2 B
Copper		600		52.2 J	210	50.8	93.9	330
Iron				20100 J	13900	11500	71400	25300
Lead		600		322 J	256	305	2330 (B)	2340 (B)
Magnesium				1430 BJ	1350	1160	1140 B	891 B
Manganese				273 J	128 J	119 J	463 J	305 J
Mercury		270		0.29 J	1.4	0.41	0.63	1.8
Nickel		2400	130	8.7 R	20.6	6.6 R	33.9	108 R
Potassium				463 BJ	543 B	487 B	547 B	589 B
Selenium			5	3.6 J	2.8 U	1.1 U	4	2.3
Silver		4100	34	0.49 UJ	0.24 U	0.23 UJ	0.46 B	0.78 J
Sodium				698 BJ	2260 BJ	419 BJ	846 BJ	1600 J
Thallium		2		2.6 UJ	1.3 UJ	1.2 UJ	1.4 UJ	1.1 UJ
Vanadium		7100	6000	11.7 BJ	14.2	16.3	21.1	18.9
Zinc		1500	12000	178 R	1810 (B)	159 R	397	956 R

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Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77	MA-SB-78
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB71-S-6.0	MA-SB72-S-6.0	MA-SB75-S-4.5	MA-SB77-S-5.0	MA-SB78-S-6.0
Sample Date				12/13/2001	12/13/2001	12/12/2001	12/12/2001	12/13/2001
Sample Interval				6 - 6.5 ft	6 - 6.5 ft	4.5 - 5 ft	5 - 5.5 ft	6 - 6.5 ft
CLP Sample ID				MB0D17	MB0D14	MB0CZ3	MB0CZ5	MB0D07
Chemical Name								
Metals (mg/Kg)								
Aluminum				3240	3950	4460	2750	4720
Antimony		340	5	0.85 UJ	7.2 BJ (C)	0.99 UJ	0.78 UJ	0.82 UJ
Arsenic		20	29	224 J (BC)	61 J (BC)	20 (B)	10.5	5 J
Barium		47000	1600	4780 (C)	6680 (C)	1160 J	487 J	103
Beryllium			63	0.43 B	0.44 B	0.22 B	0.13 B	0.28 B
Cadmium		100	8	0.4 B	1.2 B	291 (BC)	0.47 B	0.16 B
Calcium				6910	2800	5160	1090	2970
Chromium		20	38	27.9 (B)	18.4	30 J (B)	7.7 J	12.2
Cobalt				4.6 B	7.7 B	3.2 B	1.9 B	2.6 B
Copper		600		49.1	45.6	108	23.8	15.1
Iron				7860	22900	10100	6220	8720
Lead		600		163	720 (B)	731 (B)	156	182
Magnesium				1220	1240	1200 B	625 B	995 B
Manganese				90.5 J	492 J	103 J	30.6 J	106 J
Mercury		270		0.53	1.5	0.56	0.36	0.43
Nickel		2400	130	10.4	25.5 B	8.7 R	6.3 R	6 B
Potassium				596 E	1020 B	530 B	298 B	457 B
Selenium			5	1.1 U	2.7	1.3 U	2	1 U
Silver		4100	34	0.23 U	0.24 U	0.27 UJ	0.21 UJ	0.22 U
Sodium				541 BJ	747 BJ	11600 J	587 BJ	370 BJ
Thallium		2		1.2 UJ	1.2 UJ	1.4 UJ	1.1 UJ	1.1 UJ
Vanadium		7100	6000	13.3	24.3	15.6	10.7	12.5
Zinc		1500	12000	218	374	9500 (B)	332 R	149

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05/20/2004
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Criteria
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Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-79	MA-SB-81	MA-SB-82	MA-SB-85	MA-SB-96
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB79-S-5.0	MA-SB81-S	MA-SB82-S	MA-SB85-S-6.0	MA-SB96-S
Sample Date				12/13/2001	10/18/2001	10/19/2001	12/17/2001	10/22/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	4 - 4.5 ft	6 - 6.5 ft	4.5 - 5 ft
CLP Sample ID				MB0D11	MB0CJ8	MB0CK4	MB0ES8	MB0CL8
Chemical Name								
Metals (mg/Kg)								
Aluminum				5160	5100	6790	3260 J	3130
Antimony		340	5	0.84 UJ	0.83 UJ	0.86 UJ	0.84 UJ	1.7 B
Arsenic		20	29	5.2 J	297 J (B)	25 J (B)	13.1	22.7 (B)
Barium		47000	1600	108	12300 (C)	1330	22.4 B	2460 J (C)
Beryllium			63	0.25 B	0.39 B	0.46 B	0.32 B	0.75 B
Cadmium		100	8	0.09 U	7.8	4.5	0.09 UJ	0.1 U
Calcium				612 B	19400	22900	747 B	2830
Chromium		20	38	13.3	32.4 (B)	69.8 (B)	9.8	11.6
Cobalt				1.7 B	3.7 B	5.6 B	2.5 B	5 B
Copper		600		14.2	58.7	40.8	6.7	34
Iron				8920	12200	14700	7990	25100
Lead		600		86.5	436	339	27.6	2650 (B)
Magnesium				829 B	2040	2800	905 B	442 BJ
Manganese				43.8 J	139	325	60.7 J	48.4
Mercury		270		0.19	0.64 J	1.9 J	0.077 BJ	0.32
Nickel		2400	130	5 B	9.5	14.8	4.6 B	11.2
Potassium				718 B	606 B	1460 J	559 B	309 B
Selenium			5	1.1 U	1.1 U	1.1 U	1.1 U	1.8 J
Silver		4100	34	0.23 U	0.22 U	0.23 U	0.23 U	0.21 UJ
Sodium				262 BJ	4870 J	1020 B	203 BJ	248 B
Thallium		2		1.2 UJ	1.2 UR	1.2 UR	1.2 UJ	1.2 U
Vanadium		7100	6000	17.3	14.7	27.5	11.6	24.5
Zinc		1500	12000	62.3	5960 (B)	542	35.6	501

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05/20/2004
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Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ

Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-97	MA-SB-98	MA-SO-201	MA-SO-202	MA-SO-203
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB97-S	MA-SB98-S	MA-SO201-S	MA-SO202-S-13	MA-SO203-S
Sample Date				10/22/2001	10/22/2001	10/17/2001	12/14/2001	10/19/2001
Sample Interval				4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	13 - 13.5 ft	4 - 4.5 ft
CLP Sample ID				MB0CL6	MB0CM2	MB0CG9	MB0D20	MB0CK7
Chemical Name								
Metals (mg/Kg)								
Aluminum				5670	7960	5710	8590 J	12300
Antimony		340	5	0.9 B	0.91 U	2 BJ	0.85 UJ	0.91 UJ
Arsenic		20	29	49.4 (BC)	1780 (BC)	60.3 (BC)	1.4 B	48.6 J (BC)
Barium		47000	1600	14000 J (C)	1870 J (C)	14900 (C)	91.4	39700 (C)
Beryllium			63	0.56 B	1.5 J	0.65 B	0.52 B	0.89 B
Cadmium		100	8	0.4 B	1.3	7.4	0.091 UJ	1.6
Calcium				11000	4860	7170	484 B	2650
Chromium		20	38	65.9 (BC)	110 (BC)	1730 (BC)	18	128 (BC)
Cobalt				7.7 B	4.1 B	6.6 B	7.8 B	4.8 B
Copper		600		40.5	242	367	16.9	40.3
Iron				15200	11700	54100	17400	39000
Lead		600		409	1270 (B)	842 (B)	12.3	277
Magnesium				3220 J	943 BJ	2520 J	2500	2370
Manganese				217	74.1	272	124 J	194
Mercury		270		0.3	1.2	0.52	0.049 BJ	0.1 BJ
Nickel		2400	130	10.7	20.3	96.6	15.1	13.9
Potassium				894 B	781 B	472 B	569 B	584 B
Selenium			5	1.4 J	1.3 J	1.8	1.1 U	1.9
Silver		4100	34	0.2 UJ	0.23 UJ	0.24 U	0.23 U	0.24 U
Sodium				462 B	354 B	1170 BJ	254 BJ	2000 J
Thallium		2		1.1 U	1.2 U	1.2 UJ	1.2 UJ	1.3 UR
Vanadium		7100	6000	19.8	19.1	26.9	15.7	23.5
Zinc		1500	12000	469	511	734	77.4	1560 (B)

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Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
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Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-204	MA-SO-206	MA-SO-207	MA-SO-208	MA-SO-209
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO204-S-5.0	MA-SO206-S-5.0	MA-SO207-S	MA-SO208-S	MA-SO209-S
Sample Date				12/17/2001	12/17/2001	10/22/2001	10/22/2001	10/22/2001
Sample Interval				5 - 5.5 ft	5 - 5.5 ft	4.5 - 5 ft	4.5 - 5 ft	5 - 5.5 ft
CLP Sample ID				MB0ES4	MB0ES3	MB0CM1	MB0CM5	MB0CM7
Chemical Name								
Metals (mg/Kg)								
Aluminum				4780 J	2020 J	5170	3500	2620
Antimony		340	5	0.84 UJ	0.82 UJ	1 B	1.9 B	0.74 U
Arsenic		20	29	3.9	1.8 B	133 (BC)	13.5	2.8
Barium		47000	1600	82.7	22.4 B	70.6 J	10200 J (C)	206 J
Beryllium			63	0.32 B	0.18 B	0.44 B	0.42 B	0.16 B
Cadmium		100	8	0.09 UJ	0.09 UJ	0.09 U	3.8	4.7
Calcium				26800	309 B	703 B	29400	448 B
Chromium		20	38	14.7	6.6	45 (BC)	18	6.4
Cobalt				2.4 B	1.2 B	3.7 B	6.6 B	1.8 B
Copper		600		17.5	5.9	363	70.5	14.9
Iron				10500	5420	11900	16000	6030
Lead		600		113	26.6	48.2	525	357
Magnesium				3200	399 B	1480 J	17100 J	444 BJ
Manganese				97.3 J	57.3 J	62	160	90.6
Mercury		270		0.16 J	0.08 BJ	0.14 J	1.1	0.32
Nickel		2400	130	7.8 B	3 B	9	14.2	3.8 B
Potassium				695 B	310 B	691 B	804 B	315 B
Selenium			5	1.1 U	1.1 U	0.91 UJ	3 J	0.85 UJ
Silver		4100	34	0.23 U	0.22 U	0.2 UJ	0.2 UJ	0.19 UJ
Sodium				343 BJ	207 BJ	54.6 B	178 B	91 B
Thallium		2		1.2 UJ	1.2 UJ	1.5 B	1.8 B	1 U
Vanadium		7100	6000	16	7.8 B	15.2	17.6	8.4 B
Zinc		1500	12000	77.2	33.4	321	1520 (B)	502

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Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ

Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-210	MA-SO-211	MA-SO-212	MA-SO-213	MA-SO-214
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO210-S-5.0	MA-SO211-S-4.5	MA-SO212-S-5.0	MA-SO213-S-5.5	MA-SO214-S
Sample Date				12/14/2001	12/14/2001	12/14/2001	12/14/2001	10/18/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	5 - 5.5 ft	5.5 - 6 ft	4 - 4.5 ft
CLP Sample ID				MB0ER6	MB0ER5	MB0ER8	MB0ES2	MB0CH9
Chemical Name								
Metals (mg/Kg)								
Aluminum				3760	971	5880	9130	2350
Antimony		340	5	0.99 UJ	0.88 UJ	1.2 BJ	0.89 UJ	0.83 UJ
Arsenic		20	29	1240 J (BC)	7.2 J	16.6 J	479 J (BC)	5.6
Barium		47000	1600	14000 (C)	11900 (C)	18500 (C)	10300 (C)	444
Beryllium			63	0.67 B	0.2 B	0.46 B	0.4 B	0.22 B
Cadmium		100	8	22.6 (C)	1.5	24.8 (C)	1.1 B	0.09 U
Calcium				1800	3590	1560	2120	1370
Chromium		20	38	5.9	5.6	17.5	14.2	57.7 (BC)
Cobalt				5.2 B	1.9 B	3.1 B	3 B	2 B
Copper		600		41.9	13.6	36.5	12.6	13.3
Iron				26400	16400	60900	60000	6980
Lead		600		223	322	51.8	38.1	81.3
Magnesium				168 B	221 B	125 B	287 B	559 BJ
Manganese				265 J	20.3 J	142 J	102 J	49.1
Mercury		270		0.12 B	0.18	0.09 B	0.057 U	0.35
Nickel		2400	130	8.9 B	3.8 B	7.1 B	4.2 B	5.9 B
Potassium				420 E	502 E	235 B	303 B	295 B
Selenium			5	3.1	1.4	2.5	2.7	1.1 U
Silver		4100	34	0.27 U	0.24 U	0.25 U	0.24 U	0.22 U
Sodium				2550 J	637 BJ	1670 J	977 BJ	365 BJ
Thallium		2		1.4 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ
Vanadium		7100	6000	11.5 B	14.9	17.8	14.2	10.3 B
Zinc		1500	12000	1960 (B)	273	1340	672	102

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05/20/2004
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Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-301	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-402
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO301-S-5.0	MA-SO302-S-6.0	MA-SO303-S-6.0	MA-SO401-S-10.0	MA-SO402-S-10.5
Sample Date				12/13/2001	12/12/2001	12/13/2001	12/17/2001	12/17/2001
Sample Interval				5 - 5.5 ft	6 - 6.5 ft	6 - 6.5 ft	10 - 10.5 ft	10.5 - 11 ft
CLP Sample ID				MB0D03	MB09M3	MB0D01	MB0ES9	MB0ET0
Chemical Name								
Metals (mg/Kg)								
Aluminum				1360 J	6530	5540	2160 J	3500 J
Antimony		340	5	3.5 BJ	0.83 UJ	0.82 UJ	0.78 UJ	0.79 UJ
Arsenic		20	29	4.6 BJ	7.1	236 (BC)	0.74 B	2.8
Barium		47000	1600	150 J	5010 J (C)	109 J	35.1 B	33.3 B
Beryllium			63	0.24 UJ	0.29 B	0.23 B	0.19 B	0.21 B
Cadmium		100	8	0.3 BJ	3	0.18 B	0.08 UJ	0.09 UJ
Calcium				13200 J	21000	3180	170 B	355 B
Chromium		20	38	6.1 J	34.3 J (B)	16.8 J	6.6	12.7
Cobalt				0.74 BJ	3.3 B	2.1 B	0.74 B	1.4 B
Copper		600		55.4 J	64.3	13.6	2 B	9.1
Iron				19100 J	22700	13600	3670	8560
Lead		600		97.7 J	363	169	2.5	3.8
Magnesium				956 BJ	1770	1230	528 B	771 B
Manganese				144 J	199 J	124 J	16.8 J	27.7 J
Mercury		270		0.16 UJ	0.47	0.42	0.053 U	0.048 U
Nickel		2400	130	5.6 R	7.6 R	5.3 R	3.9 B	4.9 B
Potassium				283 BJ	556 B	946 B	271 B	457 B
Selenium			5	3 J	1.8	1.1 U	1 U	1 U
Silver		4100	34	0.59 UJ	0.22 UJ	0.22 UJ	0.21 U	0.21 U
Sodium				567 BJ	1060 BJ	147 BJ	234 BJ	146 BJ
Thallium		2		3.1 UJ	1.2 UJ	1.2 UJ	1.1 UJ	1.1 UJ
Vanadium		7100	6000	6.2 BJ	13.8	20.8	6.7 B	13
Zinc		1500	12000	100 R	634 R	68.5 R	84.2	22.5

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Table G.7
Subsurface Soil - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-403	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO403-S-10.0	MA-SO404-S-8.5
Sample Date				12/17/2001	12/17/2001
Sample Interval				10 - 10.5 ft	8.5 - 9 ft
CLP Sample ID				MB0ET1	MB0ES6
Chemical Name					
Metals (mg/Kg)					
Aluminum				2040 J	2040 J
Antimony		340	5	0.74 UJ	0.72 UJ
Arsenic		20	29	7	1.5 B
Barium		47000	1600	92.9	1820 (C)
Beryllium			63	0.14 B	0.18 B
Cadmium		100	8	0.08 UJ	0.08 UJ
Calcium				385 B	802 B
Chromium		20	38	8.8	7.8
Cobalt				0.55 B	1.3 B
Copper		600		4.1 B	5.1
Iron				4340	4440
Lead		600		5.5	35.3
Magnesium				496 B	506 B
Manganese				17.9 J	30.2 J
Mercury		270		0.054 U	0.051 U
Nickel		2400	130	2.9 B	3.8 B
Potassium				206 B	223 B
Selenium			5	0.96 U	0.94 U
Silver		4100	34	0.2 U	0.2 U
Sodium				110 BJ	242 BJ
Thallium		2		1 UJ	1 UJ
Vanadium		7100	6000	6.2 B	6.9 B
Zinc		1500	12000	17.1	115

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Exceedences highlighted
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Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-12S	MA-MW-13S	MA-MW-14S	MA-MW-14S	MA-MW-15S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-MW-12S-S	MA-MW-13S-S	MA-MW-14S-S-9	MA-MW-14S-S-9D	MA-MW-15S-S
Sample Date			F20	10/30/2001	10/30/2001	01/10/2002	01/10/2002	10/29/2001
Sample Interval				5.4 - 15.4 ft	6.6 - 16.6 ft	7 - 20 ft	7 - 20 ft	6.8 - 16.8 ft
CLP Sample ID				B0AW8	B0AX0	B0G11	B0G08	B0DH0
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	5 NJ	2.1 U	2.1 UJ	2.1 UJ	1.9 UJ
BHC, alpha			0.5	2.1 U	1.9 J (C)	2.1 UJ	2.1 UJ	1.9 UJ
BHC, beta			3	2.1 U	3.9 J (C)	2.1 UJ	2.1 UJ	1.9 UJ
BHC, delta			9	2.1 U	2.1 U	2.1 UJ	2.1 UJ	1.9 UJ
BHC, gamma (Lindane)	50000		9	2.1 U	1.3 J	2.1 UJ	2.1 UJ	1.9 UJ
Chlordane - alpha			23000	6.4 J	46	140 J	98 J	9.5 J
Chlordane - gamma (technical mixture)			10000	9.7 NJ	43 NJ	81 JN	52 JN	80 J
DDD-4,4	50000		16000	4.1 U	4.1 U	4.1 UJ	4.1 UJ	3.6 UJ
DDE-4,4	50000	9000	54000	11 J	450 J	140 JN	96 J	5.3 J
DDT-4,4	500000	9000	32000	4.1 U	75 NJ	36 R	25 R	12 NJ
Dieldrin	50000	180	4	26 J (C)	4.1 U	25 R	18 R	3.6 UJ
Endosulfan I (alpha)			18000	2.1 U	2.1 U	2.1 UJ	2.1 UJ	1.9 UJ
Endosulfan II (beta)				4.1 U	4.1 U	8 R	5.6 R	3.6 UJ
Endosulfan Sulfate			1000	4.1 U	37 J	4.1 UJ	4.1 UJ	3.6 UJ
Endrin	50000		1000	20	14 NJ	4.1 UJ	4.1 UJ	3.6 UJ
Endrin Aldehyde			1000	4.1 U	100 J	4.1 UJ	4.1 UJ	3.6 UJ
Endrin ketone			1000	18 J	12 NJ	8.3 NJ	4.1 UJ	3.6 UJ
Heptachlor	50000	650	23000	2.1 U	2.1 U	2.1 UJ	2.1 UJ	1.9 UJ
Heptachlor Epoxide			700	2.1 U	7.8 NJ	3.3 R	2.3 R	1.9 UJ
Methoxychlor	50000		160000	21 U	21 U	21 UJ	21 UJ	19 UJ
Pcb-araclor 1016				41 U	41 U	41 UJ	41 UJ	36 UJ
Pcb-araclor 1221				84 U	84 U	83 UJ	84 UJ	74 UJ
Pcb-araclor 1232				41 U	41 U	41 UJ	41 UJ	36 UJ
Pcb-araclor 1242				41 U	41 U	41 UJ	41 UJ	36 UJ
Pcb-araclor 1248				41 U	41 U	41 UJ	41 UJ	36 UJ
Pcb-araclor 1254		2000		41 U	41 U	2400 J (B)	1700 J	36 UJ
Pcb-araclor 1260		2000		41 U	41 U	41 UJ	41 UJ	36 UJ
Toxaphene	50000		31000	210 U	210 U	210 UJ	210 UJ	190 UJ

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(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

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Station ID	(A)	(B)	(C)	MA-MW-16S	MA-MW-17S	MA-MW-18S	MA-MW-18S	MA-MW-19S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-16S-S	MA-MW-17S-S-4.5	MA-MW-18S-S-5	MA-MW-18S-S-5D	MA-MW-19S-S-3
Sample Date				10/29/2001	11/07/2001	11/06/2001	11/06/2001	11/06/2001
Sample Interval				6.5 - 16.5 ft	8 - 18 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	5.05 - 15.05 ft
CLP Sample ID				B0DF8	B0AY0	B0AX5	B0AX6	B0AX8
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	1.8 UJ	2.2 UJ	2 UJ	2.1 UJ	2.1 UJ
BHC, alpha			0.5	1.8 UJ	2.2 UJ	2 UJ	2.1 UJ	2.1 UJ
BHC, beta			3	1.8 UJ	2.2 NJ	2 UJ	2.1 UJ	2.1 UJ
BHC, delta			9	1.8 UJ	2.2 UJ	2 UJ	2.1 UJ	2.1 UJ
BHC, gamma (Lindane)	50000		9	12 J (C)	2.2 UJ	2 UJ	2.1 UJ	2.1 UJ
Chlordane - alpha			23000	1.8 UJ	30 NJ	3.6 J	4.3 J	2.1 UJ
Chlordane - gamma (technical mixture)			10000	14 NJ	38 J	2 UJ	13 J	2.1 UJ
DDD-4,4	50000		16000	3.5 UJ	4.2 UJ	3.9 UJ	4 UJ	4 UJ
DDE-4,4	50000	9000	54000	30 J	47 J	4.4 J	5.5 J	4 UJ
DDT-4,4	500000	9000	32000	8.4 NJ	170 J	19 NJ	4 UJ	4 UJ
Dieldrin	50000	180	4	11 NJ (C)	27 NJ (C)	9.5 NJ (C)	13 NJ (C)	4 UJ
Endosulfan I (alpha)			18000	1.8 UJ	2.2 UJ	2 UJ	2.1 UJ	2.1 UJ
Endosulfan II (beta)				3.6 UJ	4.2 UJ	3.9 UJ	4 UJ	4 UJ
Endosulfan Sulfate			1000	15 NJ	16 J	28 NJ	30 NJ	5.3 NJ
Endrin	50000		1000	18 J	11 NJ	27 NJ	41 NJ	4 UJ
Endrin Aldehyde			1000	18 NJ	4.2 UJ	5.5 NJ	7 NJ	4 UJ
Endrin ketone			1000	18 NJ	29 NJ	3.9 UJ	4 UJ	4 UJ
Heptachlor	50000	650	23000	1.8 UJ	2.9 NJ	2 UJ	2.1 UJ	2.1 UJ
Heptachlor Epoxide			700	1.8 UJ	4.1 NJ	6 NJ	6.6 NJ	2.1 UJ
Methoxychlor	50000		160000	18 UJ	46 NJ	20 UJ	24 NJ	21 UJ
Pcb-araclor 1016				35 UJ	42 UJ	39 UJ	40 UJ	40 UJ
Pcb-araclor 1221				72 UJ	85 UJ	79 UJ	81 UJ	82 UJ
Pcb-araclor 1232				35 UJ	42 UJ	39 UJ	40 UJ	40 UJ
Pcb-araclor 1242				35 UJ	42 UJ	39 UJ	40 UJ	40 UJ
Pcb-araclor 1248				35 UJ	42 UJ	39 UJ	40 UJ	40 UJ
Pcb-araclor 1254		2000		35 UJ	42 UJ	200 NJ	250 NJ	40 UJ
Pcb-araclor 1260		2000		35 UJ	42 UJ	39 UJ	40 UJ	40 UJ
Toxaphene	50000		31000	180 UJ	220 UJ	200 UJ	200 UJ	210 UJ

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Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-20S	MA-MW-21S	MA-SB-02	MA-SB-04	MA-SB-06
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-20S-S-7	MA-MW-21S-S-10	MA-SB02-S	MA-SB04-S	MA-SB06-S
Sample Date				11/07/2001	01/10/2002	10/18/2001	10/16/2001	10/15/2001
Sample Interval				7.9 - 17.9 ft	10 - 21 ft	4.5 - 5 ft	5 - 5.5 ft	5 - 5.5 ft
CLP Sample ID				B0AX7	B0G09	B0DD5	B0DA7	B0D97
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	1.8 UJ	1.9 UJ	1.9 U	4 R	3.5 UJ
BHC, alpha			0.5	1.8 UJ	1.9 UJ	1.9 U	1.8 R	3.5 UJ
BHC, beta			3	1.8 UJ	1.9 UJ	7.7 R	51 R	3.5 UJ
BHC, delta			9	1.8 UJ	1.9 UJ	1.9 U	1.8 R	3.5 UJ
BHC, gamma (Lindane)	50000		9	1.8 UJ	1.9 UJ	1.9 UJ	1.8 R	3.5 UJ
Chlordane - alpha			23000	1.8 UJ	1.9 UJ	7	160 JN	3.5 UJ
Chlordane - gamma (technical mixture)			10000	1.8 UJ	1.9 UJ	5.7	180	3.5 UJ
DDD-4,4	50000		16000	3.5 UJ	3.7 UJ	3.8 U	3.5 R	6.9 UJ
DDE-4,4	50000	9000	54000	3.5 UJ	3.5 J	7.1	180	6.9 UJ
DDT-4,4	500000	9000	32000	3.5 UJ	12 J	3.8 UJ	68 R	6.9 UJ
Dieldrin	50000	180	4	3.5 UJ	3.7 UJ	3.8 U	81 R	6.9 UJ
Endosulfan I (alpha)			18000	1.8 UJ	1.9 UJ	1.9 U	13 R	3.5 UJ
Endosulfan II (beta)				3.5 UJ	3.7 UJ	3.8 U	40 J	6.9 UJ
Endosulfan Sulfate			1000	3.5 UJ	3.7 UJ	3.8 U	39 J	6.9 UJ
Endrin	50000		1000	3.5 UJ	3.7 UJ	10 R	66 JN	6.9 UJ
Endrin Aldehyde			1000	3.5 UJ	3.7 UJ	3.8 U	53 J	6.9 UJ
Endrin ketone			1000	3.5 UJ	3.7 UJ	3.8 U	3.5 R	8.1 J
Heptachlor	50000	650	23000	1.8 UJ	1.9 UJ	1.9 U	1.8 R	3.5 UJ
Heptachlor Epoxide			700	1.8 UJ	1.9 UJ	1.9 U	1.8 R	3.5 UJ
Methoxychlor	50000		160000	18 UJ	19 UJ	19 U	260 J	35 UJ
Pcb-araclor 1016				35 UJ	37 UJ	38 U	35 R	69 UJ
Pcb-araclor 1221				71 UJ	75 UJ	76 U	71 R	140 UJ
Pcb-araclor 1232				35 UJ	37 UJ	38 U	35 R	69 UJ
Pcb-araclor 1242				35 UJ	37 UJ	38 U	35 R	69 UJ
Pcb-araclor 1248				35 UJ	37 UJ	38 U	35 R	69 UJ
Pcb-araclor 1254		2000		35 UJ	37 UJ	38 U	35 R	69 UJ
Pcb-araclor 1260		2000		35 UJ	37 UJ	38 U	35 R	69 UJ
Toxaphene	50000		31000	180 UJ	190 UJ	190 U	180 R	350 UJ

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Exceedences highlighted
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Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-08	MA-SB-09	MA-SB-106	MA-SB-108	MA-SB-11
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB08-S	MA-SB09-S	MA-SB106-S	MA-SB108-S	MA-SB11-S
Sample Date				10/16/2001	10/15/2001	10/22/2001	10/22/2001	10/15/2001
Sample Interval				6.5 - 7 ft	3 - 3.5 ft	5 - 5.5 ft	4.5 - 5 ft	N/A
CLP Sample ID				B0DA8	B0D90	B0DG8	B0DG0	B0D92
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	120 JN	10 U	2 U	2.2 U	4 U
BHC, alpha			0.5	2.1 U	10 U	2 U	2.2 U	4 U
BHC, beta			3	2.1 U	28 J (C)	2 U	2.2 U	4 U
BHC, delta			9	2.1 U	10 U	2 U	2.2 U	4 U
BHC, gamma (Lindane)	50000		9	34 J (C)	10 UJ	2 U	2.2 U	4 UJ
Chlordane - alpha			23000	220 J	10 U	2 U	2.2 U	4 U
Chlordane - gamma (technical mixture)			10000	270 JN	180 R	3.6	4.5 J	4 U
DDD-4,4	50000		16000	4.1 U	20 U	3.9 U	7 NJ	7.9 U
DDE-4,4	50000	9000	54000	210	520	3.9 U	10	7.9 U
DDT-4,4	500000	9000	32000	4.1 UJ	20 UJ	3.9 U	32	7.9 UJ
Dieldrin	50000	180	4	4.1 U	330 J (BC)	3.9 U	5.7 NJ (C)	7.9 U
Endosulfan I (alpha)			18000	2.1 U	10 U	2 U	2.2 U	4 U
Endosulfan II (beta)				4.1 U	20 U	3.9 U	4.3 U	7.9 U
Endosulfan Sulfate			1000	4.1 U	20 U	3.9 U	4.3 U	7.9 U
Endrin	50000		1000	4.1 U	20 U	4.4	8.1 NJ	7.9 U
Endrin Aldehyde			1000	4.1 U	20 U	4.8 J	12 NJ	7.9 U
Endrin ketone			1000	4.1 U	20 U	18 J	30 J	8.1
Heptachlor	50000	650	23000	2.1 U	10 U	2 U	2.2 U	4 U
Heptachlor Epoxide			700	2.1 U	10 U	2 U	2.2 U	4 U
Methoxychlor	50000		160000	21 U	100 U	20 UJ	22 UJ	40 U
Pcb-araclor 1016				41 U	200 U	39 U	43 U	79 U
Pcb-araclor 1221				83 U	410 U	79 U	88 U	160 U
Pcb-araclor 1232				41 U	200 U	39 U	43 U	79 U
Pcb-araclor 1242				41 U	200 U	39 U	43 U	79 U
Pcb-araclor 1248				41 U	200 U	39 U	43 U	79 U
Pcb-araclor 1254		2000		2300 (B)	17000 (B)	39 U	43 U	79 U
Pcb-araclor 1260		2000		1700	3800 (B)	39 U	43 U	79 U
Toxaphene	50000		31000	210 U	1000 U	200 U	220 U	400 U

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Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-112	MA-SB-118	MA-SB-120	MA-SB-122	MA-SB-124
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	MA-SB112-S	MA-SB118-S	MA-SB120-S	MA-SB122-S	MA-SB124-S
Sample Date			F20	10/17/2001	10/18/2001	10/19/2001	10/16/2001	10/17/2001
Sample Interval				4 - 4.5 ft	4.5 - 5 ft	2 - 2.5 ft	8 - 8.5 ft	4 - 4.5 ft
CLP Sample ID				B0DC2	B0DD6	B0DE7	B0DB2	B0DB5
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	2.1 U	2 U	4.4 UJ	2.3 U	240 (B)
BHC, alpha			0.5	2.1 U	2 U	4.4 UJ	2.3 U	4.2 U
BHC, beta			3	2.1 U	2 U	4.4 UJ	2.3 U	4.2 U
BHC, delta			9	2.1 U	2 U	4.4 UJ	2.3 U	4.2 U
BHC, gamma (Lindane)	50000		9	2.1 UJ	2 UJ	4.4 UJ	2.3 UJ	4.2 UJ
Chlordane - alpha			23000	94	12 R	140 J	16 J	970 J
Chlordane - gamma (technical mixture)			10000	79	2 U	170 JN	29	2800
DDD-4,4	50000		16000	4.1 U	3.9 U	8.5 UJ	4.4 U	8.2 U
DDE-4,4	50000	9000	54000	25 R	6.3 R	52 JN	8.2	740
DDT-4,4	500000	9000	32000	5.9 R	9.5 R	8.5 UJ	4.4 UJ	8.2 UJ
Dieldrin	50000	180	4	68 J (C)	6 JN (C)	98 J (C)	3.6 J	690 (BC)
Endosulfan I (alpha)			18000	31 J	17	4.4 UJ	2.3 U	8.5 R
Endosulfan II (beta)				4.1 U	3.9 U	8.5 UJ	4.4 U	8.2 U
Endosulfan Sulfate			1000	4.1 U	3.9 U	8.5 UJ	4.4 U	8.2 U
Endrin	50000		1000	16 J	3.9 U	8.5 UJ	4.4 U	34 J
Endrin Aldehyde			1000	4.1 U	9.9 J	8.5 UJ	4.4 U	8.2 U
Endrin ketone			1000	4.1 U	3.9 U	8.5 UJ	4.4 U	8.2 U
Heptachlor	50000	650	23000	2.1 U	2 U	4.4 UJ	2.3 U	4.2 U
Heptachlor Epoxide			700	4.6 R	2 U	4.4 UJ	4.9 J	4.2 U
Methoxychlor	50000		160000	21 U	20 U	44 UJ	23 U	42 U
Pcb-araclor 1016				41 U	39 U	85 UJ	44 U	82 U
Pcb-araclor 1221				83 U	80 U	170 UJ	89 U	170 U
Pcb-araclor 1232				41 U	39 U	85 UJ	44 U	82 U
Pcb-araclor 1242				41 U	39 U	85 UJ	44 U	82 U
Pcb-araclor 1248				41 U	39 U	85 UJ	44 U	82 U
Pcb-araclor 1254		2000		41 U	39 U	85 UJ	44 U	82 U
Pcb-araclor 1260		2000		41 U	39 U	3100 J (B)	44 U	1600
Toxaphene	50000		31000	210 U	200 U	440 UJ	230 U	420 U

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N -

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Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-13	MA-SB-130	MA-SB-131	MA-SB-14	MA-SB-29
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB13-S	MA-SB130-S	MA-SB131-S	MA-SB14-S	MA-SB29-S-5.0
Sample Date				10/19/2001	10/17/2001	10/19/2001	10/15/2001	12/12/2001
Sample Interval				8.5 - 9 ft	5 - 5.5 ft	5 - 5.5 ft	9 - 9.5 ft	5 - 5.5 ft
CLP Sample ID				B0DF6	B0DC1	B0DF1	B0D98	B0DX7
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	2.5 UJ	3.1 U	2.1 U	2.2 U	2.1 UJ
BHC, alpha			0.5	2.5 UJ	3.1 U	2.2 J (C)	2.2 U	2.1 UJ
BHC, beta			3	5.8 JN (C)	3.1 U	2.1 U	2.2 U	2.1 UJ
BHC, delta			9	2.5 UJ	3.1 U	2.1 U	2.2 U	2.1 UJ
BHC, gamma (Lindane)	50000		9	2.5 UJ	3.1 UJ	2.1 U	2.2 UJ	2.1 UJ
Chlordane - alpha			23000	2.5 UJ	3.1 U	57 J	2.2 U	2.1 UJ
Chlordane - gamma (technical mixture)			10000	2.5 UJ	3.1 U	28	2.2 U	2.1 UJ
DDD-4,4	50000		16000	4.9 UJ	6 U	2.5 J	4.3 U	4.2 UJ
DDE-4,4	50000	9000	54000	4.9 UJ	6 U	94	4.3 U	4.2 UJ
DDT-4,4	500000	9000	32000	4.9 UJ	6 UJ	6.4 JN	4.3 UJ	4.2 UJ
Dieldrin	50000	180	4	4.9 UJ	6 U	4.1 U	4.3 U	4.2 UJ
Endosulfan I (alpha)			18000	2.5 UJ	3.1 U	2.1 U	2.2 U	2.1 UJ
Endosulfan II (beta)				4.9 UJ	6 U	4.1 U	4.3 U	4.2 UJ
Endosulfan Sulfate			1000	4.9 UJ	6 U	4.1 U	4.3 U	4.2 UJ
Endrin	50000		1000	4.9 UJ	6 U	4.1 U	4.3 U	4.2 UJ
Endrin Aldehyde			1000	4.9 UJ	6 U	4.1 U	4.3 U	4.2 UJ
Endrin ketone			1000	4.9 UJ	6 U	4.1 U	4.3 U	4.2 UJ
Heptachlor	50000	650	23000	2.5 UJ	3.1 U	2.1 U	2.2 U	2.1 UJ
Heptachlor Epoxide			700	2.5 UJ	3.1 U	2.1 U	2.2 U	2.1 UJ
Methoxychlor	50000		160000	25 UJ	31 U	21 U	22 U	21 UJ
Pcb-araclor 1016				49 UJ	60 U	41 U	43 U	42 UJ
Pcb-araclor 1221				100 UJ	120 U	84 U	87 U	84 UJ
Pcb-araclor 1232				49 UJ	60 U	41 U	43 U	42 UJ
Pcb-araclor 1242				49 UJ	60 U	41 U	43 U	42 UJ
Pcb-araclor 1248				49 UJ	60 U	41 U	43 U	42 UJ
Pcb-araclor 1254		2000		49 UJ	60 U	41 U	43 U	42 UJ
Pcb-araclor 1260		2000		49 UJ	60 U	41 U	110	42 UJ
Toxaphene	50000		31000	250 UJ	310 U	210 U	220 U	210 UJ

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Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-31	MA-SB-42	MA-SB-47	MA-SB-56	MA-SB-60
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB31-S	MA-SB42-S	MA-SB47-S	MA-SB56-S	MA-SB60-S
Sample Date				10/17/2001	10/18/2001	10/18/2001	10/16/2001	10/16/2001
Sample Interval				6.5 - 7 ft	4.5 - 5 ft	4.5 - 5 ft	8.5 - 9 ft	6.5 - 7 ft
CLP Sample ID				B0DC3	B0DC7	B0DC8	B0DA1	B0DA2
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	2.1 U	2 U	2.1 U	2.1 U	2.7 U
BHC, alpha			0.5	2.1 U	2 U	2.1 U	2.1 U	2.7 U
BHC, beta			3	49 (c)	2 U	3.8 J (c)	13 J (c)	5.9 JN (c)
BHC, delta			9	2.1 U	2 U	2.1 U	2.1 U	2.7 U
BHC, gamma (Lindane)	50000		9	2.1 UJ	2 UJ	2.1 UJ	2.1 UJ	2.7 UJ
Chlordane - alpha			23000	2.1 U	2 U	2.1 U	6.7 J	2.7 U
Chlordane - gamma (technical mixture)			10000	3.5 R	2 U	2.1 U	2.1 U	2.7 U
DDD-4,4	50000		16000	7 JN	3.9 U	4 U	4.1 U	5.2 U
DDE-4,4	50000	9000	54000	4.1 U	3.9 U	4 U	4.9 R	5.2 U
DDT-4,4	500000	9000	32000	4.9 J	3.9 UJ	4 UJ	7.4 J	5.2 UJ
Dieldrin	50000	180	4	4.1 U	3.9 U	5.6 (c)	4.4 R	5.2 U
Endosulfan I (alpha)			18000	2.1 U	2 U	2.1 U	2.7 JN	2.7 U
Endosulfan II (beta)				4.1 U	3.9 U	4 U	4.1 U	5.2 U
Endosulfan Sulfate			1000	4.1 U	3.9 U	4 U	4.1 U	5.2 U
Endrin	50000		1000	7.2 R	3.9 U	4 U	4.1 U	5.2 U
Endrin Aldehyde			1000	4.1 U	4.6 JN	4 U	4.1 U	5.2 U
Endrin ketone			1000	25 R	3.9 U	4 U	4.1 U	5.2 U
Heptachlor	50000	650	23000	2.1 U	2 U	2.1 U	2.1 U	2.7 U
Heptachlor Epoxide			700	2.1 U	2 U	2.1 U	2.1 U	2.7 U
Methoxychlor	50000		160000	110	20 U	21 U	21 U	27 U
Pcb-araclor 1016				41 U	39 U	40 U	41 U	52 U
Pcb-araclor 1221				83 U	79 U	82 U	84 U	110 U
Pcb-araclor 1232				41 U	39 U	40 U	41 U	52 U
Pcb-araclor 1242				41 U	39 U	40 U	41 U	52 U
Pcb-araclor 1248				41 U	39 U	40 U	41 U	52 U
Pcb-araclor 1254		2000		41 U	39 U	40 U	41 U	52 U
Pcb-araclor 1260		2000		41 U	39 U	40 U	41 U	52 U
Toxaphene	50000		31000	210 U	200 U	210 U	210 U	270 U

J - Reported value estimated in quantity

N -

R - Rejected Result

U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria

Exceedences highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup

Criteria
 EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-62	MA-SB-66	MA-SB-67	MA-SB-68	MA-SB-69
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB62-S-5.0	MA-SB66-S-4.5	MA-SB67-S-5.0	MA-SB68-S-4.5	MA-SB69-S-2.0
Sample Date				12/12/2001	12/13/2001	12/12/2001	12/13/2001	12/12/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	2 - 2.5 ft
CLP Sample ID				B0DX2	B0FS8	B0DX3	B0DY8	B0DW8
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	6.7 UJ	2.2 UJ	2 UJ	2.2 UJ	2 UJ
BHC, alpha			0.5	6.7 UJ	2.2 UJ	2 UJ	2.2 UJ	2 UJ
BHC, beta			3	6.7 UJ	2.2 UJ	2 UJ	2.2 UJ	2 UJ
BHC, delta			9	6.7 UJ	2.2 UJ	2 UJ	2.2 UJ	2 UJ
BHC, gamma (Lindane)	50000		9	6.7 UJ	2.2 UJ	2 UJ	2.2 UJ	2 UJ
Chlordane - alpha			23000	6.7 UJ	2.2 UJ	2 UJ	2.2 UJ	2 UJ
Chlordane - gamma (technical mixture)			10000	6.7 UJ	2.2 UJ	2 UJ	2.2 UJ	2 UJ
DDD-4,4	50000		16000	13 UJ	4.3 UJ	3.9 UJ	4.3 UJ	3.9 UJ
DDE-4,4	50000	9000	54000	13 UJ	4.3 UJ	3.9 UJ	4.3 UJ	3.9 UJ
DDT-4,4	500000	9000	32000	13 UJ	4.3 UJ	3.9 UJ	4.3 UJ	3.9 UJ
Dieldrin	50000	180	4	13 UJ	4.3 UJ	3.9 UJ	4.3 UJ	3.9 UJ
Endosulfan I (alpha)			18000	6.7 UJ	2.2 UJ	2 UJ	2.2 UJ	2 UJ
Endosulfan II (beta)				13 UJ	4.3 UJ	3.9 UJ	4.3 UJ	3.9 UJ
Endosulfan Sulfate			1000	13 UJ	4.3 UJ	3.9 UJ	4.3 UJ	3.9 UJ
Endrin	50000		1000	13 UJ	4.3 UJ	3.9 UJ	4.3 UJ	3.9 UJ
Endrin Aldehyde			1000	13 UJ	4.3 UJ	3.9 UJ	4.3 UJ	3.9 UJ
Endrin ketone			1000	13 UJ	4.3 UJ	5.1 J	4.3 UJ	3.9 UJ
Heptachlor	50000	650	23000	6.7 UJ	2.2 UJ	2 UJ	2.2 UJ	2 UJ
Heptachlor Epoxide			700	6.7 UJ	2.2 UJ	2 UJ	2.2 UJ	2 UJ
Methoxychlor	50000		160000	6.7 UJ	2.2 UJ	20 UJ	2.2 UJ	20 UJ
Pcb-araclor 1016				130 UJ	43 UJ	39 UJ	43 UJ	39 UJ
Pcb-araclor 1221				260 UJ	87 UJ	79 UJ	88 UJ	80 UJ
Pcb-araclor 1232				130 UJ	43 UJ	39 UJ	43 UJ	39 UJ
Pcb-araclor 1242				130 UJ	43 UJ	39 UJ	43 UJ	39 UJ
Pcb-araclor 1248				130 UJ	43 UJ	39 UJ	43 UJ	39 UJ
Pcb-araclor 1254		2000		130 UJ	43 UJ	39 UJ	43 UJ	39 UJ
Pcb-araclor 1260		2000		130 UJ	43 UJ	39 UJ	43 UJ	39 UJ
Toxaphene	50000		31000	670 UJ	220 UJ	200 UJ	220 UJ	200 UJ

J - Reported value estimated in quantity
N -
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-71	MA-SB-72	MA-SB-75	MA-SB-77	MA-SB-78
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB71-S-6.0	MA-SB72-S-6.0	MA-SB75-S-4.5	MA-SB77-S-5.0	MA-SB78-S-6.0
Sample Date				12/13/2001	12/13/2001	12/12/2001	12/12/2001	12/13/2001
Sample Interval				6 - 6.5 ft	6 - 6.5 ft	4.5 - 5 ft	5 - 5.5 ft	6 - 6.5 ft
CLP Sample ID				B0DZ4	B0DZ0	B0DX0DL	B0DX5	B0DY6
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	2 UJ	2.1 UJ	23 UJ	1.9 UJ	1.9 UJ
BHC, alpha			0.5	2 UJ	2.1 UJ	23 UJ	1.9 UJ	1.9 UJ
BHC, beta			3	2 UJ	2.1 UJ	23 UJ	1.9 UJ	1.9 UJ
BHC, delta			9	2 UJ	2.1 UJ	23 UJ	1.9 UJ	1.9 UJ
BHC, gamma (Lindane)	50000		9	2 UJ	2.1 UJ	23 UJ	1.9 UJ	1.9 UJ
Chlordane - alpha			23000	2 UJ	2.1 UJ	23 UJ	1.9 UJ	1.9 UJ
Chlordane - gamma (technical mixture)			10000	2 UJ	2.1 UJ	23 UJ	1.9 UJ	1.9 UJ
DDD-4,4	50000		16000	3.9 UJ	4 UJ	45 UJ	3.7 UJ	3.7 UJ
DDE-4,4	50000	9000	54000	3.9 UJ	4 UJ	45 UJ	3.7 UJ	3.7 UJ
DDT-4,4	500000	9000	32000	3.9 UJ	4 UJ	45 UJ	3.7 UJ	3.7 UJ
Dieldrin	50000	180	4	3.9 UJ	4 UJ	45 UJ	3.7 UJ	3.7 UJ
Endosulfan I (alpha)			18000	2 UJ	2.1 UJ	23 UJ	1.9 UJ	1.9 UJ
Endosulfan II (beta)				3.9 UJ	6.2 NJ	45 UJ	3.7 UJ	3.7 UJ
Endosulfan Sulfate			1000	3.9 UJ	4 UJ	45 UJ	3.7 UJ	3.7 UJ
Endrin	50000		1000	3.9 UJ	4 UJ	45 UJ	3.7 UJ	3.7 UJ
Endrin Aldehyde			1000	3.9 UJ	4 UJ	45 UJ	3.7 UJ	3.7 UJ
Endrin ketone			1000	3.9 UJ	4 UJ	93 NJ	3.7 UJ	3.7 UJ
Heptachlor	50000	650	23000	2 UJ	2.1 UJ	23 UJ	1.9 UJ	1.9 UJ
Heptachlor Epoxide			700	2 UJ	2.1 UJ	23 UJ	1.9 UJ	1.9 UJ
Methoxychlor	50000		160000	20 UJ	21 UJ	230 UJ	19 UJ	19 UJ
Pcb-araclor 1016				39 UJ	40 UJ	450 UJ	37 UJ	37 UJ
Pcb-araclor 1221				80 UJ	81 UJ	910 UJ	75 UJ	76 UJ
Pcb-araclor 1232				39 UJ	40 UJ	450 UJ	37 UJ	37 UJ
Pcb-araclor 1242				39 UJ	40 UJ	450 UJ	37 UJ	37 UJ
Pcb-araclor 1248				39 UJ	40 UJ	450 UJ	37 UJ	37 UJ
Pcb-araclor 1254		2000		39 UJ	40 UJ	450 UJ	37 UJ	37 UJ
Pcb-araclor 1260		2000		39 UJ	40 UJ	450 UJ	37 UJ	37 UJ
Toxaphene	50000		31000	200 UJ	210 UJ	2300 UJ	190 UJ	190 UJ

J - Reported value estimated in quantity

N -

R - Rejected Result

U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria

Exceedences highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria

EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-79	MA-SB-81	MA-SB-82	MA-SB-85	MA-SB-96
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB79-S-5.0	MA-SB81-S	MA-SB82-S	MA-SB85-S-6.0	MA-SB96-S
Sample Date				12/13/2001	10/18/2001	10/19/2001	12/17/2001	10/22/2001
Sample Interval				5 - 5.5 ft	4.5 - 5 ft	4 - 4.5 ft	6 - 6.5 ft	4.5 - 5 ft
CLP Sample ID				B0DZ2	B0DE0	B0DE3	B0FW7	B0DG6
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	1.9 UJ	1.9 U	1.9 U	1.9 U	2.1 U
BHC, alpha			0.5	1.9 UJ	1.9 U	1.9 U	1.9 U	2.1 U
BHC, beta			3	1.9 UJ	1.9 U	1.9 U	1.9 U	2.1 U
BHC, delta			9	1.9 UJ	1.9 U	1.9 U	1.9 U	2.1 U
BHC, gamma (Lindane)	50000		9	1.9 UJ	1.9 U	1.9 U	1.9 U	2.1 U
Chlordane - alpha			23000	1.9 UJ	1.9 U	19 JN	1.9 U	2.1 U
Chlordane - gamma (technical mixture)			10000	1.9 UJ	75 J	29 J	1.9 U	2.1 U
DDD-4,4	50000		16000	3.7 UJ	6.8	3.8 U	3.7 U	4 U
DDE-4,4	50000	9000	54000	3.7 UJ	3.8 U	30	3.7 U	4 U
DDT-4,4	500000	9000	32000	3.7 UJ	3.8 U	130	3.7 U	4 U
Dieldrin	50000	180	4	3.7 UJ	3.8 U	3.8 U	3.7 U	4 U
Endosulfan I (alpha)			18000	1.9 UJ	1.9 U	1.9 U	1.9 U	2.1 U
Endosulfan II (beta)				3.7 UJ	3.8 U	7.4 J	3.7 U	4 U
Endosulfan Sulfate			1000	3.7 UJ	20 JN	4.4 R	3.7 U	4 U
Endrin	50000		1000	3.7 UJ	3.8 U	3.8 U	3.7 U	4 U
Endrin Aldehyde			1000	3.7 UJ	3.8 U	2.5 R	3.7 U	7.3
Endrin ketone			1000	3.7 UJ	3.8 U	3.8 U	3.7 U	13 J
Heptachlor	50000	650	23000	1.9 UJ	1.9 U	2	1.9 U	2.1 U
Heptachlor Epoxide			700	1.9 UJ	1.9 U	2.3 JN	1.9 U	2.1 U
Methoxychlor	50000		160000	19 UJ	64	19 U	19 U	22 J
Pcb-araclor 1016				37 UJ	38 U	38 U	37 U	40 U
Pcb-araclor 1221				75 UJ	76 U	76 U	76 U	81 U
Pcb-araclor 1232				37 UJ	38 U	38 U	37 U	40 U
Pcb-araclor 1242				37 UJ	38 U	38 U	37 U	40 U
Pcb-araclor 1248				37 UJ	38 U	38 U	37 U	40 U
Pcb-araclor 1254		2000		37 UJ	38 U	38 U	37 U	40 U
Pcb-araclor 1260		2000		37 UJ	38 U	38 U	37 U	40 U
Toxaphene	50000		31000	190 UJ	190 U	190 U	190 U	200 U

J - Reported value estimated in quantity
N -
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SB-97	MA-SB-98	MA-SO-201	MA-SO-202	MA-SO-203
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SB97-S	MA-SB98-S	MA-SO201-S	MA-SO202-S-13	MA-SO203-S
Sample Date				10/22/2001	10/22/2001	10/17/2001	12/14/2001	10/19/2001
Sample Interval				4.5 - 5 ft	5 - 5.5 ft	4.5 - 5 ft	13 - 13.5 ft	4 - 4.5 ft
CLP Sample ID				B0DG4	B0DH1	B0DB6	B0FT1	B0DF2
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	2 U	2.4 U	34 R	2 U	23 JN
BHC, alpha			0.5	2 U	2.4 U	20 U	2 U	18 U
BHC, beta			3	2 U	2.4 U	20 U	2 U	18 U
BHC, delta			9	2 U	2.4 U	20 U	2 U	18 U
BHC, gamma (Lindane)	50000		9	2 U	2.4 U	20 UJ	2 U	18 U
Chlordane - alpha			23000	2 U	2.4 U	20 U	2 U	7500 J
Chlordane - gamma (technical mixture)			10000	2.8 J	3.2	20 U	2 U	9900
DDD-4,4	50000		16000	3.8 U	4.6 U	40 U	4 U	74 R
DDE-4,4	50000	9000	54000	3.8 U	4.6 U	19000 (B)	4 U	610 JN
DDT-4,4	500000	9000	32000	3.8 U	4.6 U	1000 R	4 U	230 J
Dieldrin	50000	180	4	3.8 U	4.6 U	40 U	4 U	440 (B)
Endosulfan I (alpha)			18000	2 U	2.4 U	20 U	2 U	18 U
Endosulfan II (beta)				3.8 U	4.6 U	40 U	4 U	35 U
Endosulfan Sulfate			1000	3.8 U	4.6 U	380 R	4 U	77 J
Endrin	50000		1000	3.8 U	4.6 U	40 U	4 U	250 R
Endrin Aldehyde			1000	3.8 U	4.7 J	40 U	4 U	77 JN
Endrin ketone			1000	9.7	9.7 NJ	140 R	4 U	35 U
Heptachlor	50000	650	23000	2 U	2.4 U	20 U	2 U	18 U
Heptachlor Epoxide			700	2 U	2.4 U	20 U	2 U	900 JN (C)
Methoxychlor	50000		160000	20 UJ	24 UJ	200 U	20 U	180 U
Pcb-araclor 1016				38 U	46 U	400 U	40 U	350 U
Pcb-araclor 1221				77 U	93 U	810 U	81 U	710 U
Pcb-araclor 1232				38 U	46 U	400 U	40 U	350 U
Pcb-araclor 1242				38 U	46 U	400 U	40 U	350 U
Pcb-araclor 1248				38 U	46 U	400 U	40 U	350 U
Pcb-araclor 1254		2000		38 U	46 U	48000 (B)	40 U	350 U
Pcb-araclor 1260		2000		38 U	46 U	400 U	40 U	350 U
Toxaphene	50000		31000	200 U	240 U	2000 U	200 U	1800 U

J - Reported value estimated in quantity
N -
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-204	MA-SO-206	MA-SO-208	MA-SO-209	MA-SO-210
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO204-S-5.0	MA-SO206-S-5.0	MA-SO208-S	MA-SO209-S	MA-SO210-S-5.0
Sample Date				12/17/2001	12/17/2001	10/22/2001	10/22/2001	12/14/2001
Sample Interval				5 - 5.5 ft	5 - 5.5 ft	4.5 - 5 ft	5 - 5.5 ft	5 - 5.5 ft
CLP Sample ID				B0FW6	B0FT9	B0DH5	B0DH7	B0FW2
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	40 JN	1.9 U	2 U	1.8 U	3.1 NJ
BHC, alpha			0.5	2 U	1.9 U	2 U	1.8 U	2.2 U
BHC, beta			3	15 NJ (C)	1.9 U	2 U	1.8 U	2.2 U
BHC, delta			9	2 U	1.9 U	2 U	1.8 U	2.2 U
BHC, gamma (Lindane)	50000		9	2 U	1.9 U	2 U	1.8 U	2.2 U
Chlordane - alpha			23000	13 R	1.9 U	2 U	1.8 U	2.2 U
Chlordane - gamma (technical mixture)			10000	21	0.96 J	2 U	1.8 U	2.2 U
DDD-4,4	50000		16000	6.1 NJ	3.8 U	7.4 J	3.6 U	4.2 U
DDE-4,4	50000	9000	54000	92 J	3.8 U	3.9 U	3.6 U	4.2 U
DDT-4,4	500000	9000	32000	14 NJ	3.8 U	12	3.6 U	4.2 U
Dieldrin	50000	180	4	47 NJ (C)	3.8 U	3.9 U	3.6 U	4.2 U
Endosulfan I (alpha)			18000	2 U	1.9 U	2 U	1.8 U	2.2 U
Endosulfan II (beta)				3.8 U	3.8 U	3.9 U	3.6 U	4.2 U
Endosulfan Sulfate			1000	3.8 U	3.8 U	3.9 U	3.6 U	4.2 U
Endrin	50000		1000	3.8 U	3.8 U	3.9 U	3.6 U	4.2 U
Endrin Aldehyde			1000	7.9 R	3.8 U	39 J	3.6 U	4.2 U
Endrin ketone			1000	3.8 U	3.8 U	10	3.6 U	13
Heptachlor	50000	650	23000	7 J	1.9 U	2 U	1.8 U	2.2 U
Heptachlor Epoxide			700	2 U	1.9 U	2 U	1.8 U	2.2 U
Methoxychlor	50000		160000	20 U	19 U	20 UJ	18 UJ	22 U
Pcb-araclor 1016				38 U	38 U	39 U	35 U	42 U
Pcb-araclor 1221				78 U	77 U	79 U	72 U	86 U
Pcb-araclor 1232				38 U	38 U	39 U	35 U	42 U
Pcb-araclor 1242				38 U	38 U	39 U	35 U	42 U
Pcb-araclor 1248				38 U	38 U	39 U	35 U	42 U
Pcb-araclor 1254		2000		2100 (B)	38 U	39 U	35 U	42 U
Pcb-araclor 1260		2000		38 U	38 U	39 U	35 U	42 U
Toxaphene	50000		31000	200 U	190 U	200 U	180 U	220 U

J - Reported value estimated in quantity
N -
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-211	MA-SO-212	MA-SO-213	MA-SO-214	MA-SO-301
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO211-S-4.5	MA-SO212-S-5.0	MA-SO213-S-5.5	MA-SO214-S	MA-SO301-S-5.0
Sample Date				12/14/2001	12/14/2001	12/14/2001	10/18/2001	12/13/2001
Sample Interval				4.5 - 5 ft	5 - 5.5 ft	5.5 - 6 ft	4 - 4.5 ft	5 - 5.5 ft
CLP Sample ID				B0FT3	B0FT6	B0FW0	B0DC9	B0DY1
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	2.5 NJ	2.3 U	2.1 U	2 U	5.6 UJ
BHC, alpha			0.5	2 U	2.3 U	2.1 U	2 U	5.6 UJ
BHC, beta			3	2 U	2.3 U	2.1 U	3 U	5.6 UJ
BHC, delta			9	2 U	2.3 U	2.1 U	2 U	5.6 UJ
BHC, gamma (Lindane)	50000		9	2 U	2.3 U	2.1 U	2 UJ	5.6 UJ
Chlordane - alpha			23000	2 U	2.3 U	2.1 U	2 U	5.6 UJ
Chlordane - gamma (technical mixture)			10000	2 U	2.3 U	2.1 U	2 U	5.6 UJ
DDD-4,4	50000		16000	3.9 U	4.4 U	4.1 U	3.9 U	11 UJ
DDE-4,4	50000	9000	54000	3.9 U	4.4 U	4.1 U	3.9 U	11 UJ
DDT-4,4	500000	9000	32000	3.9 U	4.4 U	4.1 U	3.9 UJ	11 UJ
Dieldrin	50000	180	4	3.9 U	4.4 U	4.1 U	3.9 U	11 UJ
Endosulfan I (alpha)			18000	2 U	2.3 U	2.1 U	2 U	5.6 UJ
Endosulfan II (beta)				3.9 U	4.4 U	4.1 U	3.9 U	11 UJ
Endosulfan Sulfate			1000	3.9 U	4.4 U	4.1 U	3.9 U	11 UJ
Endrin	50000		1000	3.9 U	4.4 U	4.1 U	3.9 U	11 UJ
Endrin Aldehyde			1000	3.9 U	4.4 U	4.1 U	3.9 U	11 UJ
Endrin ketone			1000	12 NJ	4.4 U	4.1 U	3.9 U	11 UJ
Heptachlor	50000	650	23000	2 U	2.3 U	2.1 U	2 U	5.6 UJ
Heptachlor Epoxide			700	2 U	2.3 U	2.1 U	2 U	5.6 UJ
Methoxychlor	50000		160000	20 U	23 U	21 U	20 U	56 UJ
Pcb-araclor 1016				39 U	44 U	41 U	39 U	110 UJ
Pcb-araclor 1221				79 U	90 U	83 U	79 U	220 UJ
Pcb-araclor 1232				39 U	44 U	41 U	39 U	110 UJ
Pcb-araclor 1242				39 U	44 U	41 U	39 U	110 UJ
Pcb-araclor 1248				39 U	44 U	41 U	39 U	110 UJ
Pcb-araclor 1254		2000		39 U	44 U	41 U	39 U	110 UJ
Pcb-araclor 1260		2000		39 U	44 U	41 U	39 U	110 UJ
Toxaphene	50000		31000	200 U	230 U	210 U	200 U	560 UJ

J - Reported value estimated in quantity

N -

R - Rejected Result

U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria

Exceedences highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup
 Criteria

EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-302	MA-SO-303	MA-SO-401	MA-SO-402	MA-SO-403
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO302-S-6.0	MA-SO303-S-6.0	MA-SO401-S-10.0	MA-SO402-S-10.5	MA-SO403-S-10.0
Sample Date				12/12/2001	12/13/2001	12/17/2001	12/17/2001	12/17/2001
Sample Interval				6 - 6.5 ft	6 - 6.5 ft	10 - 10.5 ft	10.5 - 11 ft	10 - 10.5 ft
CLP Sample ID				B0AY2	B0DY4	B0FW9	B0FX0	B0FX1
Chemical Name								
Pesticides and PCBs (ug/Kg)								
Aldrin	50000	170	500	2 UJ	2 UJ	1.8 U	1.8 U	1.8 U
BHC, alpha			0.5	2 UJ	2 UJ	1.8 U	1.8 U	1.8 U
BHC, beta			3	2 UJ	2 UJ	1.8 U	1.8 U	1.8 U
BHC, delta			9	2 UJ	2 UJ	1.8 U	1.8 U	1.8 U
BHC, gamma (Lindane)	50000		9	2 UJ	2 UJ	1.8 U	1.8 U	1.8 U
Chlordane - alpha			23000	1.4 J	2 UJ	1.8 U	1.8 U	1.8 U
Chlordane - gamma (technical mixture)			10000	2 UJ	2 UJ	1.8 U	1.8 U	1.8 U
DDD-4,4	50000		16000	3.9 UJ	3.9 UJ	3.6 U	3.5 U	3.5 U
DDE-4,4	50000	9000	54000	3.9 UJ	3.9 UJ	3.6 U	3.5 U	3.5 U
DDT-4,4	500000	9000	32000	3.9 UJ	3.9 UJ	3.6 U	3.5 U	3.5 U
Dieldrin	50000	180	4	3.9 UJ	3.9 UJ	3.6 U	3.5 U	3.5 U
Endosulfan I (alpha)			18000	2 UJ	2 UJ	1.8 U	1.8 U	1.8 U
Endosulfan II (beta)				3.9 UJ	3.9 UJ	3.6 U	3.5 U	3.5 U
Endosulfan Sulfate			1000	3.9 UJ	3.9 UJ	3.6 U	3.5 U	3.5 U
Endrin	50000		1000	3.9 UJ	3.9 UJ	3.6 U	3.5 U	3.5 U
Endrin Aldehyde			1000	3.9 UJ	3.9 UJ	3.6 U	3.5 U	3.5 U
Endrin ketone			1000	3.9 UJ	3.9 UJ	3.6 U	3.5 U	3.5 U
Heptachlor	50000	650	23000	2 UJ	2 UJ	1.8 U	1.8 U	1.8 U
Heptachlor Epoxide			700	2 UJ	2 UJ	1.8 U	1.8 U	1.8 U
Methoxychlor	50000		160000	20 UJ	20 UJ	18 U	18 U	18 U
Pcb-araclor 1016				39 UJ	39 UJ	36 U	35 U	35 U
Pcb-araclor 1221				78 UJ	80 UJ	73 U	71 U	71 U
Pcb-araclor 1232				39 UJ	39 UJ	36 U	35 U	35 U
Pcb-araclor 1242				39 UJ	39 UJ	36 U	35 U	35 U
Pcb-araclor 1248				39 UJ	39 UJ	36 U	35 U	35 U
Pcb-araclor 1254		2000		39 UJ	39 UJ	36 U	35 U	35 U
Pcb-araclor 1260		2000		39 UJ	39 UJ	36 U	35 U	35 U
Toxaphene	50000		31000	200 UJ	200 UJ	180 U	180 U	180 U

J - Reported value estimated in quantity
N -
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.8
Subsurface Soil - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-SO-404
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-SO404-S-8.5
Sample Date				12/17/2001
Sample Interval				8.5 - 9 ft
CLP Sample ID				B0FX3
Chemical Name				
Pesticides and PCBs (ug/Kg)				
Aldrin	50000	170	500	1.8 U
BHC, alpha			0.5	1.8 U
BHC, beta			3	1.8 U
BHC, delta			9	1.8 U
BHC, gamma (Lindane)	50000		9	1.8 U
Chlordane - alpha			23000	11 J
Chlordane - gamma (technical mixture)			10000	12
DDD-4,4	50000		16000	3.5 U
DDE-4,4	50000	9000	54000	3.5 U
DDT-4,4	500000	9000	32000	3.5 U
Dieldrin	50000	180	4	3.5 U
Endosulfan I (alpha)			18000	1.8 U
Endosulfan II (beta)				3.5 U
Endosulfan Sulfate			1000	3.5 U
Endrin	50000		1000	3.5 U
Endrin Aldehyde			1000	3.5 U
Endrin ketone			1000	3.5 U
Heptachlor	50000	650	23000	1.3 J
Heptachlor Epoxide			700	1.8 U
Methoxychlor	50000		160000	18 U
Pcb-araclor 1016				35 U
Pcb-araclor 1221				70 U
Pcb-araclor 1232				35 U
Pcb-araclor 1242				35 U
Pcb-araclor 1248				35 U
Pcb-araclor 1254		2000		35 U
Pcb-araclor 1260		2000		35 U
Toxaphene	50000		31000	180 U

J - Reported value estimated in quantity
N -
R - Rejected Result
U - Analyte not detected above reporting limit

(A, B, C) - Exceeds criteria
Exceedences highlighted
IGWSCC - Impact to Groundwater Soil Cleanup Criteria

05/20/2004
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-10S	MA-MW-10S	MA-MW-11M	MA-MW-11M	MA-MW-11S
Sample ID	GWQC	MCL	MA-MW-10S-R1	MA-MW-10S-R2	MA-MW-11M-R1	MA-MW-11M-R2	MA-MW-11S-R1
Sample Date			06/19/2002	09/19/2002	06/20/2002	09/23/2002	06/20/2002
Sample Interval			8 - 18 ft	8 - 18 ft	46 - 56 ft	46 - 56 ft	11 - 21 ft
CLP Sample ID			B0KZ3	B0QB2	B0KZ6	B0QB3	B0KZ5
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		5 R	5 U	5 U	7.8 U	5 U
Benzene	1	5	0.5 R	0.5 U	0.5 U	0.3 J	0.5 U
Bromoform	4	80	0.5 R	1.1 UJ	0.5 U	0.5 U	0.5 U
Bromomethane	10		0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide			0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	2	5	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	4	100	0.5 R	0.5 U	1.1	0.94	0.5 U
Chlorobromomethane			0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane			0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	6		0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	30		0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane			0.5 R	0.19 J	0.5 U	0.5 U	0.5 U
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	10	80	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Dibromoethane-1,2	0.05	0.05	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorobenzene-1,2	600	600	0.5 R	0.5 U	0.84	0.73	0.5 U
Dichlorobenzene-1,3	600		0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorobenzene-1,4	75	75	0.5 R	0.5 U	0.5 U	0.25 J	0.5 U
Dichlorobromomethane	1	80	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane			0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Dichloroethane-1,1	70		0.5 R	0.61	1.9	1.8	0.5 U
Dichloroethane-1,2	2	5	0.5 R	0.23 J	0.5 U	0.5 U	0.5 U
Dichloroethene-1,2 trans	100	100	0.5 R	0.5 U	0.5 U	0.21 J	0.5 U
Dichloroethylene-1,1	2	7	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Dichloroethylene-1,2 cis	10	70	1.8 J	1.9	9.5	8.6	0.5 U
Dichloropropane-1,2	1	5	0.5 R	0.5 U	1.6 (A)	1.7 (A)	0.5 U
Dichloropropene-1,3 cis			0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Dichloropropene-1,3 trans			0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	700	700	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

302809

Station ID	(A)	(B)	MA-MW-10S	MA-MW-10S	MA-MW-11M	MA-MW-11M	MA-MW-11S
Sample ID	GWQC	MCL	MA-MW-10S-R1	MA-MW-10S-R2	MA-MW-11M-R1	MA-MW-11M-R2	MA-MW-11S-R1
Sample Date			06/19/2002	09/19/2002	06/20/2002	09/23/2002	06/20/2002
Sample Interval			8 - 18 ft	8 - 18 ft	46 - 56 ft	46 - 56 ft	11 - 21 ft
CLP Sample ID			B0KZ3	B0QB2	B0KZ6	B0QB3	B0KZ5
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Hexanone-2			5 R	5 U	5 U	5 U	5 U
Isopropylbenzene			0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Methyl acetate			0.5 R	0.29 J	0.5 U	0.5 U	0.5 U
Methyl cyclohexane			0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone (2-butanone)	300		5 R	5 U	5 U	5 U	5 U
Methyl isobutyl ketone (4-methyl-2-pent	400		5 R	5 U	5 U	5 U	5 U
Methyl tertiary butyl ether (MTBE)			1 J	0.86	23	26	2
Methylene chloride	2	5	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	100	100	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethane-1,1,2,2	2		0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethylene	1	5	0.5 R	0.5 U	0.5 U	0.15 J	0.5 U
Toluene	1000	1000	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorobenzene-1,2,3			0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorobenzene-1,2,4	9	70	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethane-1,1,1	30	200	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethane-1,1,2	3	5	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	1	5	0.5 R	0.5 U	0.5 U	0.45 J	0.96
Trichlorofluoromethane			0.5 R	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	5	2	0.5 R	2.6 (B)	0.5 U	0.5 U	0.5 U
Xylenes, total	40	10000	0.5 R	0.5 U	0.5 U	0.5 U	0.5 U

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-11S	MA-MW-12M	MA-MW-12M	MA-MW-12S	MA-MW-12S
Sample ID	GWQC	MCL	MA-MW-11S-R2	MA-MW-12M-R1	MA-MW-12M-R2	MA-MW-12S-R1	MA-MW-12S-R2
Sample Date			09/23/2002	06/18/2002	09/24/2002	06/18/2002	09/24/2002
Sample Interval			11 - 21 ft	38.1 - 48.1 ft	38.1 - 48.1 ft	5.4 - 15.4 ft	5.4 - 15.4 ft
CLP Sample ID			B0QB7	B0KY5	B0QB6	B0KX9	B0QB5
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		5 U	5 UJ	8.7 U	5 UJ	5 U
Benzene	1	5	0.5 U	0.5 UJ	0.32 J	2 U (A)	2.4 (A)
Bromoform	4	80	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ
Bromomethane	10		0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ
Carbon disulfide			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.25 J
Carbon tetrachloride	2	5	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Chlorobenzene	4	100	0.5 U	0.5 UJ	0.37 J	1.8 J	0.5 U
Chlorobromomethane			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Chloroethane			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Chloroform	6		0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Chloromethane	30		0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Cyclohexane			0.5 U	0.5 UJ	0.5 U	1.7 J	0.61
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dibromochloromethane	10	80	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ
Dibromoethane-1,2	0.05	0.05	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ
Dichlorobenzene-1,2	600	600	0.5 U	0.5 UJ	0.5 U	9.3 J	6
Dichlorobenzene-1,3	600		0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.66
Dichlorobenzene-1,4	75	75	0.5 U	0.5 UJ	0.5 U	1.8 J	1.5
Dichlorobromomethane	1	80	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichlorodifluoromethane			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichloroethane-1,1	70		0.5 U	0.5 UJ	0.5 U	7.2 J	9
Dichloroethane-1,2	2	5	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichloroethene-1,2 trans	100	100	0.5 U	0.5 UJ	0.5 U	11 J	10
Dichloroethylene-1,1	2	7	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.41 J
Dichloroethylene-1,2 cis	10	70	0.25 J	14 J (A)	14 (A)	180 J (AB)	180 (AB)
Dichloropropane-1,2	1	5	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichloropropene-1,3 cis			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichloropropene-1,3 trans			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Ethylbenzene	700	700	0.5 U	0.5 UJ	0.5 U	33 J	2.1

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

302811

Station ID	(A)	(B)	MA-MW-11S	MA-MW-12M	MA-MW-12M	MA-MW-12S	MA-MW-12S
Sample ID	GWQC	MCL	MA-MW-11S-R2	MA-MW-12M-R1	MA-MW-12M-R2	MA-MW-12S-R1	MA-MW-12S-R2
Sample Date			09/23/2002	06/18/2002	09/24/2002	06/18/2002	09/24/2002
Sample Interval			11 - 21 ft	38.1 - 48.1 ft	38.1 - 48.1 ft	5.4 - 15.4 ft	5.4 - 15.4 ft
CLP Sample ID			B0QB7	B0KY5	B0QB6	B0KX9	B0QB5
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Hexanone-2			5 U	5 UJ	5 U	5 UJ	5 U
Isopropylbenzene			0.5 U	0.5 UJ	0.5 U	13 J	1
Methyl acetate			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Methyl cyclohexane			0.5 U	0.5 UJ	0.5 U	4.4 J	1.4
Methyl ethyl ketone (2-butanone)	300		5 U	5 UJ	5 U	5 UJ	5 U
Methyl isobutyl ketone (4-methyl-2-pent	400		5 U	5 UJ	5 U	5 UJ	5 U
Methyl tertiary butyl ether (MTBE)			1.8	38 J	48	0.5 UJ	0.5 U
Methylene chloride	2	5	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ
Styrene	100	100	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Tetrachloroethane-1,1,2,2	2		0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ
Tetrachloroethylene	1	5	0.29 J	0.5 UJ	0.5 U	0.5 UJ	0.2 J
Toluene	1000	1000	0.5 U	0.5 UJ	0.5 U	0.88 UJ	0.88
Trichlorobenzene-1,2,3			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.29 J
Trichlorobenzene-1,2,4	9	70	0.5 U	0.5 UJ	0.5 U	3.1 J	2.2
Trichloroethane-1,1,1	30	200	0.5 U	0.5 UJ	0.5 U	0.55 J	0.5 U
Trichloroethane-1,1,2	3	5	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Trichloroethylene	1	5	1.2 (A)	0.5 UJ	0.5 U	2.7 J (A)	5.5 (AB)
Trichlorofluoromethane			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Vinyl chloride	5	2	0.5 U	3.3 J (B)	2.4 (B)	58 J (AB)	1.10 J (AB)
Xylenes, total	40	10000	0.5 U	0.5 UJ	0.5 U	4.6 J	0.63 U

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13S
Sample ID	GWQC	MCL	MA-MW-13M-R1	MA-MW-13M-R1-D	MA-MW-13M-R2	MA-MW-13M-R2-D	MA-MW-13S-R1
Sample Date			06/27/2002	06/27/2002	09/25/2002	09/25/2002	06/28/2002
Sample Interval			48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	6.6 - 16.6 ft
CLP Sample ID			B0KY1	B0KX7	B0QC0	B0QB0	B0KX8
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		5 R	5 R	6.1 U	5 U	NA
Benzene	1	5	0.5 R	0.5 R	2.6 (A)	1.3 (A)	69 J (AB)
Bromoform	4	80	0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Bromomethane	10		0.5 R	0.5 R	0.5 U	0.5 UJ	0.5 UJ
Carbon disulfide			0.5 R	0.5 R	0.5 U	0.5 U	19 J
Carbon tetrachloride	2	5	0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Chlorobenzene	4	100	0.5 R	0.5 R	0.22 J	0.24 J	NA
Chlorobromomethane			0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Chloroethane			0.5 R	0.5 R	0.33 J	0.19 J	0.5 UJ
Chloroform	6		0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Chloromethane	30		0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Cyclohexane			0.5 R	0.5 R	0.61	0.25 J	NA
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Dibromochloromethane	10	80	0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Dibromoethane-1,2	0.05	0.05	0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichlorobenzene-1,2	600	600	0.5 R	0.5 R	0.17 J	0.5 U	14 J
Dichlorobenzene-1,3	600		0.5 R	0.5 R	0.5 U	0.5 U	NA
Dichlorobenzene-1,4	75	75	0.5 R	0.5 R	0.5 U	0.5 U	NA
Dichlorobromomethane	1	80	0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichlorodifluoromethane			0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichloroethane-1,1	70		0.5 R	0.5 R	0.71	0.38 J	3.5 J
Dichloroethane-1,2	2	5	0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichloroethene-1,2 trans	100	100	0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichloroethylene-1,1	2	7	0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichloroethylene-1,2 cis	10	70	12 J (A)	14 J (A)	8.7	11 (A)	12 J (A)
Dichloropropane-1,2	1	5	0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichloropropene-1,3 cis			0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichloropropene-1,3 trans			0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Ethylbenzene	700	700	0.5 R	0.5 R	0.4 J	0.2 J	45 J

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13S
Sample ID	GWQC	MCL	MA-MW-13M-R1	MA-MW-13M-R1-D	MA-MW-13M-R2	MA-MW-13M-R2-D	MA-MW-13S-R1
Sample Date			06/27/2002	06/27/2002	09/25/2002	09/25/2002	06/28/2002
Sample Interval			48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	6.6 - 16.6 ft
CLP Sample ID			B0KY1	B0KX7	B0QC0	B0QB0	B0KX8
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Hexanone-2			5 R	5 R	5 U	0.5 U	NA
Isopropylbenzene			0.5 R	0.5 R	0.5 UJ	0.5 U	2.3 J
Methyl acetate			0.5 R	0.5 R	0.5 U	0.5 U	NA
Methyl cyclohexane			0.5 R	0.5 R	3	1.4	NA
Methyl ethyl ketone (2-butanone)	300		5 R	5 R	1.9 J	5 U	180 J
Methyl isobutyl ketone (4-methyl-2-pent	400		5 R	5 R	5 U	0.22 J	240 J
Methyl tertiary butyl ether (MTBE)			8.6 J	10 J	4.6	4.9	NA
Methylene chloride	2	5	0.5 R	0.5 R	0.5 U	0.5 UJ	0.5 UJ
Styrene	100	100	0.5 R	0.5 R	0.5 U	0.5 U	NA
Tetrachloroethane-1,1,2,2	2		0.5 R	0.5 R	0.5 U	0.5 UJ	0.5 UJ
Tetrachloroethylene	1	5	0.5 R	0.5 R	0.5 U	0.5 U	0.55 J
Toluene	1000	1000	0.5 R	0.5 R	0.5 U	0.5 U	17 J
Trichlorobenzene-1,2,3			0.5 R	0.5 R	0.5 U	0.5 U	3.3 J
Trichlorobenzene-1,2,4	9	70	0.5 R	0.5 R	0.5 U	0.5 U	11 J (A)
Trichloroethane-1,1,1	30	200	0.5 R	0.5 R	0.25 J	0.5 U	0.5 UJ
Trichloroethane-1,1,2	3	5	0.5 R	0.5 R	0.5 U	0.43 J	0.5 UJ
Trichloroethylene	1	5	0.5 R	0.5 R	0.5 U	0.5 U	1.1 J (A)
Trichlorofluoromethane			0.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Vinyl chloride	5	2	0.5 R	0.5 R	0.5	0.57	0.5 UJ
Xylenes, total	40	10000	0.5 R	0.5 R	0.5 U	0.5	57 J (A)

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

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Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-13S	MA-MW-13S	MA-MW-14D	MA-MW-14D	MA-MW-14R
Sample ID	GWQC	MCL	MA-MW-13S-R1	MA-MW-13S-R2	MA-MW-14D-R1	MA-MW-14D-R2	MA-MW-14R-R1
Sample Date			06/28/2002	09/25/2002	06/18/2002	09/24/2002	06/18/2002
Sample Interval			6.6 - 16.6 ft	6.6 - 16.6 ft	170 - 188 ft	170 - 188 ft	109.5 - 119.5 ft
CLP Sample ID			B0KX8DL	B0QB8	B0KY2	B0QB9	B0KY0
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		25 R	44 J	5 U	5 U	5 UJ
Benzene	1	5	NA	0.91 J	0.5 U	0.5 U	0.5 UJ
Bromoform	4	80	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Bromomethane	10		NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Carbon disulfide			NA	0.23 J	0.5 U	0.5 U	0.5 UJ
Carbon tetrachloride	2	5	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Chlorobenzene	4	100	2.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Chlorobromomethane			NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Chloroethane			NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Chloroform	6		NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Chloromethane	30		NA	0.5 R	0.5 U	0.6	0.5 UJ
Cyclohexane			2.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
DBCP (1,2-dibromo-3-chloropropane)		0.2	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Dibromochloromethane	10	80	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Dibromoethane-1,2	0.05	0.05	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichlorobenzene-1,2	600	600	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichlorobenzene-1,3	600		2.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichlorobenzene-1,4	75	75	2.5 R	0.29 J	0.5 U	0.5 U	0.5 UJ
Dichlorobromomethane	1	80	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichlorodifluoromethane			NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichloroethane-1,1	70		NA	0.5 R	0.5 U	0.5 U	0.87 J
Dichloroethane-1,2	2	5	NA	0.5 R	0.5 U	0.84	0.5 UJ
Dichloroethene-1,2 trans	100	100	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichloroethylene-1,1	2	7	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichloroethylene-1,2 cis	10	70	NA	0.5 R	0.56	0.85	6.5 J
Dichloropropane-1,2	1	5	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichloropropene-1,3 cis			NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Dichloropropene-1,3 trans			NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Ethylbenzene	700	700	NA	0.31 J	0.5 U	0.5 U	0.5 UJ

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

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Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-13S	MA-MW-13S	MA-MW-14D	MA-MW-14D	MA-MW-14R
Sample ID	GWQC	MCL	MA-MW-13S-R1	MA-MW-13S-R2	MA-MW-14D-R1	MA-MW-14D-R2	MA-MW-14R-R1
Sample Date			06/28/2002	09/25/2002	06/18/2002	09/24/2002	06/18/2002
Sample Interval			6.6 - 16.6 ft	6.6 - 16.6 ft	170 - 188 ft	170 - 188 ft	109.5 - 119.5 ft
CLP Sample ID			B0KX8DL	B0QB8	B0KY2	B0QB9	B0KY0
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Hexanone-2			25 R	5 R	5 U	5 U	5 UJ
Isopropylbenzene			NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Methyl acetate			2.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Methyl cyclohexane			2.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Methyl ethyl ketone (2-butanone)	300		NA	7.2 J	5 U	5 U	5 UJ
Methyl isobutyl ketone (4-methyl-2-pent	400		NA	6.2 J	5 U	5 U	5 UJ
Methyl tertiary butyl ether (MTBE)			2.5 R	0.5 R	0.87	1.3	4.9 J
Methylene chloride	2	5	NA	0.51 UJ	0.5 U	0.5 U	0.5 UJ
Styrene	100	100	2.5 R	0.5 R	0.5 U	0.5 U	0.5 UJ
Tetrachloroethane-1,1,2,2	2		NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Tetrachloroethylene	1	5	NA	0.5 R	0.5 U	0.21 J	0.5 UJ
Toluene	1000	1000	NA	0.23 J	0.5 U	0.5 U	0.5 UJ
Trichlorobenzene-1,2,3			NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Trichlorobenzene-1,2,4	9	70	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Trichloroethane-1,1,1	30	200	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Trichloroethane-1,1,2	3	5	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Trichloroethylene	1	5	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Trichlorofluoromethane			NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Vinyl chloride	5	2	NA	0.5 R	0.5 U	0.5 U	0.5 UJ
Xylenes, total	40	10000	NA	0.5 R	0.5 U	0.5 U	0.5 UJ

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-14R	MA-MW-14S	MA-MW-14S	MA-MW-14S	MA-MW-15M
Sample ID	GWQC	MCL	MA-MW-14R-R2	MA-MW-14S-R1	MA-MW-14S-R2	MA-MW-14S-R2-D	MA-MW-15M-R1
Sample Date			09/24/2002	06/18/2002	09/24/2002	09/24/2002	06/19/2002
Sample Interval			109.5 - 119.5 ft	7 - 20 ft	7 - 20 ft	7 - 20 ft	59.4 - 69.4 ft
CLP Sample ID			B0QC3	B0KY4	B0QC1	B0QA9	B0KY8
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		9.3 U	5 UJ	5 U	5 U	5 U
Benzene	1	5	0.22 J	0.84	1.1 (A)	1.3 (A)	0.53
Bromoform	4	80	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	10		0.5 U	0.5 U	0.5 R	0.5 UJ	0.5 U
Carbon disulfide			0.5 U	0.5 U	0.5 R	0.5 UJ	0.5 U
Carbon tetrachloride	2	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	4	100	0.43 J	0.5 U	0.53	0.57	0.5 U
Chlorobromomethane			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane			0.5 U	0.5 U	0.5 R	0.5 UJ	0.5 U
Chloroform	6		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	30		1.1 U	0.5 U	0.5 R	0.5 UJ	0.5 U
Cyclohexane			0.39 J	0.5 U	0.36 J	0.5 U	0.5 U
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	10	80	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromoethane-1,2	0.05	0.05	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorobenzene-1,2	600	600	0.25 J	2.8	3.1	3.2	0.5 U
Dichlorobenzene-1,3	600		0.5 U	0.5 U	0.3 J	0.34 J	0.5 U
Dichlorobenzene-1,4	75	75	0.5 U	0.5 U	0.22 J	0.5 U	0.5 U
Dichlorobromomethane	1	80	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane			0.5 U	0.5 U	0.5 R	0.5 UJ	0.5 U
Dichloroethane-1,1	70		1.1	5.6	7.8	8.6	1.1
Dichloroethane-1,2	2	5	0.25 J	0.5 U	0.5 U	0.5 U	0.5 U
Dichloroethene-1,2 trans	100	100	0.5 U	15	21	20	0.5 U
Dichloroethylene-1,1	2	7	0.17 J	0.5 U	0.54	0.5 U	0.5 U
Dichloroethylene-1,2 cis	10	70	8.8	320 (AB)	330 (AB)	380 (AB)	40 (A)
Dichloropropane-1,2	1	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloropropene-1,3 cis			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloropropene-1,3 trans			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	700	700	0.5 U	2.8	0.58	0.61	0.5 U

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

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Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-14R	MA-MW-14S	MA-MW-14S	MA-MW-14S	MA-MW-15M
Sample ID	GWQC	MCL	MA-MW-14R-R2	MA-MW-14S-R1	MA-MW-14S-R2	MA-MW-14S-R2-D	MA-MW-15M-R1
Sample Date			09/24/2002	06/18/2002	09/24/2002	09/24/2002	06/19/2002
Sample Interval			109.5 - 119.5 ft	7 - 20 ft	7 - 20 ft	7 - 20 ft	59.4 - 69.4 ft
CLP Sample ID			B0QC3	B0KY4	B0QC1	B0QA9	B0KY8
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexanone-2			5 U	5 U	5 U	5 U	5 U
Isopropylbenzene			0.5 U	0.5 U	0.24 J	0.26 J	0.5 U
Methyl acetate			0.5 UJ	0.5 U	0.5 U	0.5 R	0.5 U
Methyl cyclohexane			0.5 U	1.1	1.6	1.3	0.5 U
Methyl ethyl ketone (2-butanone)	300		5 U	5 UJ	5 U	5 U	5 U
Methyl isobutyl ketone (4-methyl-2-pent	400		5 U	5 U	5 U	5 U	5 U
Methyl tertiary butyl ether (MTBE)			14 J	0.5 U	0.5 U	0.5 U	16
Methylene chloride	2	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	100	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethane-1,1,2,2	2		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethylene	1	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	1000	1000	0.5 U	0.5 U	0.5 U	0.17 J	0.5 U
Trichlorobenzene-1,2,3			0.5 U	0.68	0.64	0.71	0.5 U
Trichlorobenzene-1,2,4	9	70	0.5 U	1.9	1.8	2	0.5 U
Trichloroethane-1,1,1	30	200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethane-1,1,2	3	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	1	5	0.15 J	8.1 (AB)	11 (AB)	11 (AB)	0.5 U
Trichlorofluoromethane			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	5	2	3.8 (B)	48 (AB)	17 J (AB)	5.1 J (AB)	16 (AB)
Xylenes, total	40	10000	0.5 U	0.5 U	1.2	1.2	0.5 U

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-15M	MA-MW-15S	MA-MW-15S	MA-MW-16S	MA-MW-16S
Sample ID	GWQC	MCL	MA-MW-15M-R2	MA-MW-15S-R1	MA-MW-15S-R2	MA-MW-16S-R1	MA-MW-16S-R2
Sample Date			09/23/2002	06/19/2002	09/25/2002	06/27/2002	09/25/2002
Sample Interval			59.4 - 69.4 ft	6.8 - 16.8 ft	6.8 - 16.8 ft	6.5 - 16.5 ft	6.5 - 16.5 ft
CLP Sample ID			B0N57	B0KZ0	B0QE1	B0L33	B0QD7
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		16 U	5 R	20 J	5 R	5 U
Benzene	1	5	0.77	9.2 J (AB)	38 (AB)	22 J (AB)	31 (AB)
Bromoform	4	80	0.5 U	0.5 UJ	0.46 J	0.5 R	0.3 J
Bromomethane	10		0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 R
Carbon disulfide			0.5 U	0.5 UJ	0.6	0.84 J	0.44 J
Carbon tetrachloride	2	5	0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Chlorobenzene	4	100	0.58	0.5 R	1.3	0.5 R	0.5 U
Chlorobromomethane			0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Chloroethane			0.5 U	2.4 J	3	5.3 J	0.5 R
Chloroform	6		0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Chloromethane	30		0.95 U	0.5 UJ	0.5 U	0.5 R	0.5 R
Cyclohexane			1.1	2.8 J	2.1	5.4 J	8.8
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Dibromochloromethane	10	80	0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Dibromoethane-1,2	0.05	0.05	0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Dichlorobenzene-1,2	600	600	0.35 J	0.5 R	0.59	0.83 J	1.2
Dichlorobenzene-1,3	600		0.5 U	0.5 R	0.5 U	0.5 R	0.5 U
Dichlorobenzene-1,4	75	75	0.5 U	0.5 R	0.5 U	0.5 R	0.5 U
Dichlorobromomethane	1	80	0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Dichlorodifluoromethane			0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 R
Dichloroethane-1,1	70		1.4	3.9 J	0.89	120 J (A)	41
Dichloroethane-1,2	2	5	0.46 J	1.5 J	0.5 U	0.5 R	3.5 (A)
Dichloroethene-1,2 trans	100	100	0.16 J	1.6 J	2.2	0.57 J	0.7
Dichloroethylene-1,1	2	7	0.6	0.5 UJ	0.5 U	0.5 R	0.47 J
Dichloroethylene-1,2 cis	10	70	37 (A)	9.7 J	1.6	12 J (A)	9.6
Dichloropropane-1,2	1	5	0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Dichloropropene-1,3 cis			0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Dichloropropene-1,3 trans			0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Ethylbenzene	700	700	0.5 U	0.5 R	0.65	1.6 J	2.4

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-15M	MA-MW-15S	MA-MW-15S	MA-MW-16S	MA-MW-16S
Sample ID	GWQC	MCL	MA-MW-15M-R2	MA-MW-15S-R1	MA-MW-15S-R2	MA-MW-16S-R1	MA-MW-16S-R2
Sample Date			09/23/2002	06/19/2002	09/25/2002	06/27/2002	09/25/2002
Sample Interval			59.4 - 69.4 ft	6.8 - 16.8 ft	6.8 - 16.8 ft	6.5 - 16.5 ft	6.5 - 16.5 ft
CLP Sample ID			B0N57	B0KZ0	B0QE1	B0L33	B0QD7
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Hexanone-2			5 U	5 R	5 U	5 R	5 U
Isopropylbenzene			0.5 U	0.5 R	1.5	2.3 J	4.1
Methyl acetate			0.5 UJ	0.5 UJ	0.5 U	0.5 R	0.5 U
Methyl cyclohexane			0.5 U	0.87 J	0.59 J	8.4 J	11 J
Methyl ethyl ketone (2-butanone)	300		5 UJ	5 R	4.5 J	5 R	5 U
Methyl isobutyl ketone (4-methyl-2-pent	400		5 U	5 R	5 U	5 R	5 U
Methyl tertiary butyl ether (MTBE)			21	3.4 J	5.2	1.7 J	1.9
Methylene chloride	2	5	0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Styrene	100	100	0.5 U	0.5 R	0.5 U	0.5 R	0.5 U
Tetrachloroethane-1,1,2,2	2		0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Tetrachloroethylene	1	5	0.5 U	0.5 UJ	0.5 U	0.75 J	0.33 J
Toluene	1000	1000	0.5 U	0.5 R	3	5.5 J	2.9
Trichlorobenzene-1,2,3			0.5 U	0.5 R	0.5 U	0.5 R	0.5 U
Trichlorobenzene-1,2,4	9	70	0.5 U	0.5 R	0.5 U	0.5 R	0.5 U
Trichloroethane-1,1,1	30	200	0.5 U	0.5 UJ	0.5 U	87 J (A)	18
Trichloroethane-1,1,2	3	5	0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Trichloroethylene	1	5	0.56	1.4 J (A)	0.17 J	1.8 J (A)	1.5 J (A)
Trichlorofluoromethane			0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 U
Vinyl chloride	5	2	1.7 (AB)	3 J (B)	1.2	3.1 J (B)	5.7 (AB)
Xylenes, total	40	10000	0.5 U	0.77 J	2.8	9 J	10

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-17M	MA-MW-17M	MA-MW-17S	MA-MW-17S	MA-MW-18D
Sample ID	GWQC	MCL	MA-MW-17M-R1	MA-MW-17M-R2	MA-MW-17S-R1	MA-MW-17S-R2	MA-MW-18D-R1
Sample Date			06/14/2002	09/18/2002	06/14/2002	09/18/2002	06/17/2002
Sample Interval			41.82 - 51.82 ft	41.82 - 51.82 ft	8 - 18 ft	8 - 18 ft	140 - 152 ft
CLP Sample ID			B0L34	B0QE0	B0L35	B0QD9	B0L30
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		5 U	5 U	5 R	5 U	5 U
Benzene	1	5	0.5 U	8.3 J (AB)	0.5 R	2 J (A)	0.5 U
Bromoform	4	80	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Bromomethane	10		0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Carbon disulfide			0.5 U	0.5 U	0.5 R	0.5 U	0.5 U
Carbon tetrachloride	2	5	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Chlorobenzene	4	100	0.5 U	0.5 U	0.5 R	0.5 U	0.5 U
Chlorobromomethane			0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U
Chloroethane			0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Chloroform	6		0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U
Chloromethane	30		0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Cyclohexane			0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Dibromochloromethane	10	80	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Dibromoethane-1,2	0.05	0.05	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Dichlorobenzene-1,2	600	600	0.5 U	0.5 U	0.5 R	0.5 U	0.5 U
Dichlorobenzene-1,3	600		0.5 U	0.5 U	0.5 R	0.5 U	0.5 U
Dichlorobenzene-1,4	75	75	0.5 U	0.5 U	0.5 R	0.5 U	0.5 U
Dichlorobromomethane	1	80	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Dichlorodifluoromethane			0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ
Dichloroethane-1,1	70		0.5 U	0.5 UJ	0.5 UJ	0.15 J	0.5 U
Dichloroethane-1,2	2	5	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Dichloroethene-1,2 trans	100	100	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ
Dichloroethylene-1,1	2	7	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ
Dichloroethylene-1,2 cis	10	70	14 (A)	1.5	0.5 UJ	0.28 J	0.5 U
Dichloropropane-1,2	1	5	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Dichloropropene-1,3 cis			0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Dichloropropene-1,3 trans			0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Ethylbenzene	700	700	0.5 U	2.4	0.5 R	0.63	0.5 U

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-17M	MA-MW-17M	MA-MW-17S	MA-MW-17S	MA-MW-18D
Sample ID	GWQC	MCL	MA-MW-17M-R1	MA-MW-17M-R2	MA-MW-17S-R1	MA-MW-17S-R2	MA-MW-18D-R1
Sample Date			06/14/2002	09/18/2002	06/14/2002	09/18/2002	06/17/2002
Sample Interval			41.82 - 51.82 ft	41.82 - 51.82 ft	8 - 18 ft	8 - 18 ft	140 - 152 ft
CLP Sample ID			B0L34	B0QE0	B0L35	B0QD9	B0L30
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Hexanone-2			5 U	5 U	5 R	5 U	5 U
Isopropylbenzene			0.5 U	0.5 U	0.5 R	0.5 U	0.5 U
Methyl acetate			0.5 R	0.5 U	0.5 R	0.5 U	0.5 R
Methyl cyclohexane			0.5 U	0.5 U	0.5 R	0.5 U	0.5 U
Methyl ethyl ketone (2-butanone)	300		5 UJ	5 U	5 R	5 U	5 UJ
Methyl isobutyl ketone (4-methyl-2-pent	400		5 U	5 U	5 R	5 U	5 U
Methyl tertiary butyl ether (MTBE)			4.1	16 J	0.5 R	3.3 J	0.84
Methylene chloride	2	5	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ
Styrene	100	100	0.5 U	0.19 J	0.5 R	0.5 U	0.5 U
Tetrachloroethane-1,1,2,2	2		0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Tetrachloroethylene	1	5	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Toluene	1000	1000	0.5 U	19	0.5 R	4.5	0.5 U
Trichlorobenzene-1,2,3			0.5 U	0.5 U	0.5 R	0.5 U	0.5 U
Trichlorobenzene-1,2,4	9	70	0.5 U	0.5 U	0.5 R	0.5 U	0.5 U
Trichloroethane-1,1,1	30	200	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Trichloroethane-1,1,2	3	5	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Trichloroethylene	1	5	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Trichlorofluoromethane			0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Vinyl chloride	5	2	2.8 J (B)	0.55	0.5 UJ	0.5 U	0.5 UJ
Xylenes, total	40	10000	0.5 U	18	0.5 R	1.1	0.5 U

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
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Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-18D	MA-MW-18M	MA-MW-18M	MA-MW-18S	MA-MW-18S
Sample ID	GWQC	MCL	MA-MW-18D-R2	MA-MW-18M-R1	MA-MW-18M-R2	MA-MW-18S-R1	MA-MW-18S-R2
Sample Date			09/18/2002	06/17/2002	09/18/2002	06/17/2002	09/18/2002
Sample Interval			140 - 152 ft	31.77 - 41.77 ft	31.77 - 41.77 ft	7.8 - 17.8 ft	7.8 - 17.8 ft
CLP Sample ID			B0N52	B0L31	B0N54	B0L32	B0N53
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		5 U	5 R	7 U	5 U	7.2 U
Benzene	1	5	0.17 J	0.5 R	0.23 J	0.5 U	0.22 J
Bromoform	4	80	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Bromomethane	10		0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Carbon disulfide			0.5 U	0.5 R	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	2	5	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Chlorobenzene	4	100	0.5 U	0.5 R	0.5 U	0.5 U	0.5 U
Chlorobromomethane			0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 UJ
Chloroethane			0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Chloroform	6		0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 UJ
Chloromethane	30		0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Cyclohexane			0.5 U	0.5 R	0.5 U	0.5 U	0.34 J
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Dibromochloromethane	10	80	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Dibromoethane-1,2	0.05	0.05	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Dichlorobenzene-1,2	600	600	0.5 U	0.5 R	0.5 U	0.5 U	0.5 U
Dichlorobenzene-1,3	600		0.5 U	0.5 R	0.5 U	0.5 U	0.5 U
Dichlorobenzene-1,4	75	75	0.5 U	0.5 R	0.5 U	0.5 U	0.5 U
Dichlorobromomethane	1	80	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichloroethane-1,1	70		0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 UJ
Dichloroethane-1,2	2	5	0.23 J	0.5 UJ	0.5 U	0.5 U	0.5 U
Dichloroethene-1,2 trans	100	100	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichloroethylene-1,1	2	7	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichloroethylene-1,2 cis	10	70	0.5 U	7.4 J	2.8	0.5 U	0.5 U
Dichloropropane-1,2	1	5	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Dichloropropene-1,3 cis			0.5 U	0.5 UJ	0.5 U	0.5 U	0.21 J
Dichloropropene-1,3 trans			0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Ethylbenzene	700	700	0.94	0.5 R	0.5 U	0.5 U	0.16 J

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

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GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-18D	MA-MW-18M	MA-MW-18M	MA-MW-18S	MA-MW-18S
Sample ID	GWQC	MCL	MA-MW-18D-R2	MA-MW-18M-R1	MA-MW-18M-R2	MA-MW-18S-R1	MA-MW-18S-R2
Sample Date			09/18/2002	06/17/2002	09/18/2002	06/17/2002	09/18/2002
Sample Interval			140 - 152 ft	31.77 - 41.77 ft	31.77 - 41.77 ft	7.8 - 17.8 ft	7.8 - 17.8 ft
CLP Sample ID			B0N52	B0L31	B0N54	B0L32	B0N53
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Hexanone-2			5 U	5 R	5 U	5 U	5 U
Isopropylbenzene			0.5 U	0.5 R	0.5 U	0.5 U	0.5 U
Methyl acetate			0.5 U	0.5 R	0.5 R	0.5 R	0.5 U
Methyl cyclohexane			0.5 U	0.5 R	0.5 UJ	0.5 U	0.5 U
Methyl ethyl ketone (2-butanone)	300		5 U	5 R	0.5 U	5 UJ	0.5 U
Methyl isobutyl ketone (4-methyl-2-pent	400		5 U	5 R	5 U	5 U	5 U
Methyl tertiary butyl ether (MTBE)			0.59 J	2.5 J	1.8 J	0.87	0.43 J
Methylene chloride	2	5	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Styrene	100	100	0.5 U	0.5 R	0.5 U	0.5 U	0.5 U
Tetrachloroethane-1,1,2,2	2		0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Tetrachloroethylene	1	5	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Toluene	1000	1000	0.31 J	0.5 R	0.23 J	0.5 U	0.52
Trichlorobenzene-1,2,3			0.5 U	0.5 R	0.5 U	0.5 U	0.5 U
Trichlorobenzene-1,2,4	9	70	0.5 U	0.5 R	0.5 U	0.5 U	0.5 U
Trichloroethane-1,1,1	30	200	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Trichloroethane-1,1,2	3	5	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Trichloroethylene	1	5	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane			0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Vinyl chloride	5	2	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Xylenes, total	40	10000	0.5 U	0.5 R	0.5 U	0.5 U	0.5 U

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
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Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-19M	MA-MW-19M	MA-MW-19R	MA-MW-19R	MA-MW-19S
Sample ID	GWQC	MCL	MA-MW-19M-R1	MA-MW-19M-R2	MA-MW-19R-R1	MA-MW-19R-R2	MA-MW-19S-R1
Sample Date			06/17/2002	09/19/2002	06/17/2002	09/19/2002	06/17/2002
Sample Interval			42 - 52 ft	42 - 52 ft	103 - 113 ft	103 - 113 ft	5.05 - 15.05 ft
CLP Sample ID			B0L28	B0N55	B0L27	B0N56	B0L29
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		5 U	6.6 U	5 U	0.5 U	5 U
Benzene	1	5	0.5 U	0.5 UJ	0.5 U	0.16 J	0.5 U
Bromoform	4	80	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	10		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	2	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	4	100	0.5 U	0.5 U	0.5 U	0.15 J	0.5 U
Chlorobromomethane			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	6		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	30		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane			0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	10	80	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromoethane-1,2	0.05	0.05	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorobenzene-1,2	600	600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorobenzene-1,3	600		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorobenzene-1,4	75	75	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorobromomethane	1	80	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane			0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ
Dichloroethane-1,1	70		0.5 U	0.5 U	0.74	0.33 J	0.5 U
Dichloroethane-1,2	2	5	0.5 U	0.5 U	0.5 U	0.21 J	0.5 U
Dichloroethene-1,2 trans	100	100	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ
Dichloroethylene-1,1	2	7	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ
Dichloroethylene-1,2 cis	10	70	1.3	1.6	3.2	3.6	0.5 U
Dichloropropane-1,2	1	5	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Dichloropropene-1,3 cis			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloropropene-1,3 trans			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	700	700	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-19M	MA-MW-19M	MA-MW-19R	MA-MW-19R	MA-MW-19S
Sample ID	GWQC	MCL	MA-MW-19M-R1	MA-MW-19M-R2	MA-MW-19R-R1	MA-MW-19R-R2	MA-MW-19S-R1
Sample Date			06/17/2002	09/19/2002	06/17/2002	09/19/2002	06/17/2002
Sample Interval			42 - 52 ft	42 - 52 ft	103 - 113 ft	103 - 113 ft	5.05 - 15.05 ft
CLP Sample ID			B0L28	B0N55	B0L27	B0N56	B0L29
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexanone-2			5 U	5 U	5 U	5 U	5 U
Isopropylbenzene			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl acetate			0.5 R	0.5 R	0.5 R	0.5 U	0.5 R
Methyl cyclohexane			0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone (2-butanone)	300		5 UJ	5 UJ	5 UJ	5 U	5 UJ
Methyl isobutyl ketone (4-methyl-2-pent	400		5 U	5 U	5 U	5 U	5 U
Methyl tertiary butyl ether (MTBE)			6.5	5.6 J	1.3	1.5 J	1.4
Methylene chloride	2	5	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 UJ
Styrene	100	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethane-1,1,2,2	2		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethylene	1	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	1000	1000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorobenzene-1,2,3			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorobenzene-1,2,4	9	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethane-1,1,1	30	200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethane-1,1,2	3	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	1	5	0.82	0.46 J	0.76	0.46 J	0.5 U
Trichlorofluoromethane			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	5	2	0.5 UJ	0.5 U	0.5 UJ	2.4 (B)	0.5 UJ
Xylenes, total	40	10000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-19S	MA-MW-01M	MA-MW-01M	MA-MW-01S	MA-MW-01S
Sample ID	GWQC	MCL	MA-MW-19S-R2	MA-MW-1M-R1	MA-MW-1M-R2	MA-MW-1S-R1	MA-MW-1S-R2
Sample Date			09/19/2002	06/20/2002	09/23/2002	06/20/2002	09/23/2002
Sample Interval			5.05 - 15.05 ft	50 - 60 ft	50 - 60 ft	4 - 14 ft	4 - 14 ft
CLP Sample ID			B0N60	B0KZ2	B0N59	B0KZ4	B0N58
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		5 U	5 R	5.7 U	5 R	5.8 U
Benzene	1	5	0.5 U	0.58 J	0.64 J	0.53 J	0.35 J
Bromoform	4	80	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.27 J
Bromomethane	10		0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Carbon disulfide			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Carbon tetrachloride	2	5	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Chlorobenzene	4	100	0.5 U	0.5 R	0.5	0.5 R	0.5 U
Chlorobromomethane			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Chloroethane			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Chloroform	6		0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Chloromethane	30		0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Cyclohexane			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dibromochloromethane	10	80	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dibromoethane-1,2	0.05	0.05	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichlorobenzene-1,2	600	600	0.5 U	0.5 R	0.29 J	0.5 R	0.5 U
Dichlorobenzene-1,3	600		0.5 U	0.5 R	0.5 U	0.5 R	0.5 U
Dichlorobenzene-1,4	75	75	0.5 U	0.5 R	0.5 U	0.5 R	0.5 U
Dichlorobromomethane	1	80	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichlorodifluoromethane			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichloroethane-1,1	70		0.5 U	0.5 UJ	0.17 J	0.5 UJ	0.68
Dichloroethane-1,2	2	5	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichloroethene-1,2 trans	100	100	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichloroethylene-1,1	2	7	0.5 U	0.5 UJ	0.22 J	0.5 UJ	0.5 U
Dichloroethylene-1,2 cis	10	70	1.4	27 J (A)	22 (A)	0.5 UJ	2.1
Dichloropropane-1,2	1	5	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichloropropene-1,3 cis			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Dichloropropene-1,3 trans			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Ethylbenzene	700	700	0.5 U	0.5 R	0.5 U	0.5 R	0.5 U

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-19S	MA-MW-01M	MA-MW-01M	MA-MW-01S	MA-MW-01S
Sample ID	GWQC	MCL	MA-MW-19S-R2	MA-MW-1M-R1	MA-MW-1M-R2	MA-MW-1S-R1	MA-MW-1S-R2
Sample Date			09/19/2002	06/20/2002	09/23/2002	06/20/2002	09/23/2002
Sample Interval			5.05 - 15.05 ft	50 - 60 ft	50 - 60 ft	4 - 14 ft	4 - 14 ft
CLP Sample ID			B0N60	B0KZ2	B0N59	B0KZ4	B0N58
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Hexanone-2			5 U	5 R	5 U	5 R	0.24 J
Isopropylbenzene			0.5 U	0.5 R	0.5 U	0.5 R	0.5 U
Methyl acetate			0.5 U	0.5 UJ	0.5 R	0.5 UJ	0.5 U
Methyl cyclohexane			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Methyl ethyl ketone (2-butanone)	300		5 U	5 R	5 U	5 R	5 U
Methyl isobutyl ketone (4-methyl-2-pent	400		5 U	5 R	5 U	5 R	5 U
Methyl tertiary butyl ether (MTBE)			1.2 J	65 J	60	0.5 UJ	5.6
Methylene chloride	2	5	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Styrene	100	100	0.5 U	0.5 R	0.5 U	0.5 R	0.5 U
Tetrachloroethane-1,1,2,2	2		0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Tetrachloroethylene	1	5	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Toluene	1000	1000	0.5 U	0.5 R	0.5 U	0.61 UJ	0.26 J
Trichlorobenzene-1,2,3			0.5 U	0.5 R	0.5 U	0.5 R	0.5 U
Trichlorobenzene-1,2,4	9	70	0.5 U	0.5 R	0.5 U	0.5 R	0.5 U
Trichloroethane-1,1,1	30	200	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.75
Trichloroethane-1,1,2	3	5	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Trichloroethylene	1	5	0.17 J	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Trichlorofluoromethane			0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Vinyl chloride	5	2	0.89	7.3 J (AB)	9.4 J (AB)	0.5 UJ	0.63
Xylenes, total	40	10000	0.5 U	0.5 R	0.5 U	0.5 R	0.5 U

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-20D	MA-MW-20D	MA-MW-20M	MA-MW-20M	MA-MW-20R
Sample ID	GWQC	MCL	MA-MW-20D-R1	MA-MW-20D-R2	MA-MW-20M-R1	MA-MW-20M-R2	MA-MW-20R-R1
Sample Date			06/13/2002	09/20/2002	06/13/2002	09/20/2002	06/13/2002
Sample Interval			123 - 133 ft	123 - 133 ft	42 - 52 ft	42 - 52 ft	113 - 123 ft
CLP Sample ID			B0L25	B0N63	B0L24	B0N61	B0L26
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		5 U	5 U	5 U	6.2 U	5 U
Benzene	1	5	0.5 U	0.33 J	0.5 U	0.28 J	0.5 U
Bromoform	4	80	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	10		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	2	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	4	100	0.5 U	0.5 U	0.54	0.43 J	0.5 U
Chlorobromomethane			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	6		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	30		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane			0.5 U	0.29 J	0.5 U	0.26 J	0.5 U
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	10	80	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromoethane-1,2	0.05	0.05	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorobenzene-1,2	600	600	0.5 U	0.5 U	0.5 U	0.37 J	0.5 U
Dichlorobenzene-1,3	600		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorobenzene-1,4	75	75	0.5 U	0.5 U	0.5 U	0.16 J	0.5 U
Dichlorobromomethane	1	80	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloroethane-1,1	70		2.6	1.9	0.52	1.3	2.4
Dichloroethane-1,2	2	5	0.5 U	0.87	0.5 U	0.37 J	0.5 U
Dichloroethene-1,2 trans	100	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloroethylene-1,1	2	7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloroethylene-1,2 cis	10	70	18 (A)	14 (A)	0.5 U	9.4	16 (A)
Dichloropropane-1,2	1	5	0.5 U	0.5 U	0.5 U	0.25 J	0.5 U
Dichloropropene-1,3 cis			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloropropene-1,3 trans			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	700	700	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

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Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-20D	MA-MW-20D	MA-MW-20M	MA-MW-20M	MA-MW-20R
Sample ID	GWQC	MCL	MA-MW-20D-R1	MA-MW-20D-R2	MA-MW-20M-R1	MA-MW-20M-R2	MA-MW-20R-R1
Sample Date			06/13/2002	09/20/2002	06/13/2002	09/20/2002	06/13/2002
Sample Interval			123 - 133 ft	123 - 133 ft	42 - 52 ft	42 - 52 ft	113 - 123 ft
CLP Sample ID			B0L25	B0N63	B0L24	B0N61	B0L26
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexanone-2			5 UJ	5 U	5 UJ	5 U	5 UJ
Isopropylbenzene			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl acetate			0.5 R	0.5 U	0.5 R	0.5 U	0.5 R
Methyl cyclohexane			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone (2-butanone)	300		5 UJ	5 U	5 UJ	5 U	5 UJ
Methyl isobutyl ketone (4-methyl-2-pent	400		5 U	5 U	5 U	5 U	5 U
Methyl tertiary butyl ether (MTBE)			0.85	0.5 U	18	18	0.55
Methylene chloride	2	5	0.5 U	0.18 J	0.5 U	0.5 U	0.5 U
Styrene	100	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethane-1,1,2,2	2		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethylene	1	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	1000	1000	0.5 U	0.27 J	2.4	0.23 J	0.5 U
Trichlorobenzene-1,2,3			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorobenzene-1,2,4	9	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethane-1,1,1	30	200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethane-1,1,2	3	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	1	5	1.5 (A)	1 (A)	0.5 U	0.51	1.4 (A)
Trichlorofluoromethane			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	5	2	9 (AB)	8 (AB)	0.5 U	4.2 (B)	9.3 (AB)
Xylenes, total	40	10000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-20R	MA-MW-20S	MA-MW-20S	MA-MW-21S	MA-MW-21S
Sample ID	GWQC	MCL	MA-MW-20R-R2	MA-MW-20S-R1	MA-MW-20S-R2	MA-MW-21S-R1	MA-MW-21S-R2
Sample Date			09/20/2002	06/13/2002	09/20/2002	06/12/2002	09/17/2002
Sample Interval			113 - 123 ft	7.9 - 17.9 ft	7.9 - 17.9 ft	10 - 21 ft	10 - 21 ft
CLP Sample ID			B0N62	B0L22	B0N66	B0L21	B0N68
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		5 U	5 U	5 U	5 R	5 U
Benzene	1	5	0.26 J	0.5 U	0.5 U	0.5 R	0.5 U
Bromoform	4	80	0.5 U	0.5 U	0.5 U	0.5 UJ	0.93 J
Bromomethane	10		0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Carbon disulfide			0.5 U	0.5 U	0.5 U	0.5 R	0.5 U
Carbon tetrachloride	2	5	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Chlorobenzene	4	100	0.18 J	0.5 U	0.5 U	0.78 J	0.53
Chlorobromomethane			0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Chloroethane			0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Chloroform	6		0.5 U	0.5 U	0.21 J	0.5 UJ	0.5 U
Chloromethane	30		0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Cyclohexane			0.27 J	0.5 U	0.5 U	0.5 R	0.5 U
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
Dibromochloromethane	10	80	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
Dibromoethane-1,2	0.05	0.05	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
Dichlorobenzene-1,2	600	600	0.2 J	0.5 U	0.5 U	0.5 R	0.5 U
Dichlorobenzene-1,3	600		0.5 U	0.5 U	0.5 U	0.5 R	0.5 U
Dichlorobenzene-1,4	75	75	0.5 U	0.5 U	0.5 U	0.5 R	0.16 J
Dichlorobromomethane	1	80	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Dichlorodifluoromethane			0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Dichloroethane-1,1	70		2.3	1.1	4	0.5 UJ	0.5 U
Dichloroethane-1,2	2	5	0.53	0.5 U	0.5 U	0.5 UJ	0.5 U
Dichloroethene-1,2 trans	100	100	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Dichloroethylene-1,1	2	7	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Dichloroethylene-1,2 cis	10	70	9.8	0.5 U	0.61	0.5 UJ	0.35 J
Dichloropropane-1,2	1	5	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Dichloropropene-1,3 cis			0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Dichloropropene-1,3 trans			0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Ethylbenzene	700	700	0.5 U	0.5 U	0.5 U	0.5 R	0.5 U

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-20R	MA-MW-20S	MA-MW-20S	MA-MW-21S	MA-MW-21S
Sample ID	GWQC	MCL	MA-MW-20R-R2	MA-MW-20S-R1	MA-MW-20S-R2	MA-MW-21S-R1	MA-MW-21S-R2
Sample Date			09/20/2002	06/13/2002	09/20/2002	06/12/2002	09/17/2002
Sample Interval			113 - 123 ft	7.9 - 17.9 ft	7.9 - 17.9 ft	10 - 21 ft	10 - 21 ft
CLP Sample ID			B0N62	B0L22	B0N66	B0L21	B0N68
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Hexanone-2			5 U	5 UJ	5 U	5 R	5 U
Isopropylbenzene			0.5 U	0.5 U	0.5 U	0.5 R	0.5 U
Methyl acetate			0.5 U	0.5 R	0.5 U	0.5 R	0.5 U
Methyl cyclohexane			0.5 U	0.5 U	0.5 U	0.5 R	0.5 U
Methyl ethyl ketone (2-butanone)	300		5 U	5 UJ	5 U	5 R	5 U
Methyl isobutyl ketone (4-methyl-2-pent	400		5 U	5 U	5 U	5 R	5 U
Methyl tertiary butyl ether (MTBE)			4.4	0.5 U	0.32 J	0.5 R	0.35 J
Methylene chloride	2	5	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Styrene	100	100	0.5 U	0.5 U	0.5 U	0.5 R	0.5 U
Tetrachloroethane-1,1,2,2	2		0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ
Tetrachloroethylene	1	5	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Toluene	1000	1000	0.5 U	0.51	0.5 U	0.5 R	0.5 U
Trichlorobenzene-1,2,3			0.5 U	0.5 U	0.5 U	0.5 R	0.5 U
Trichlorobenzene-1,2,4	9	70	0.5 U	0.5 U	0.5 U	0.5 R	0.5 U
Trichloroethane-1,1,1	30	200	22	50 (A)	60 (A)	0.5 UJ	0.5 U
Trichloroethane-1,1,2	3	5	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Trichloroethylene	1	5	1.1 (A)	0.92	1.6 (A)	0.5 UJ	0.5 U
Trichlorofluoromethane			0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Vinyl chloride	5	2	6.1 (AB)	0.5 U	0.5 U	0.5 UJ	0.5 U
Xylenes, total	40	10000	0.5 U	0.5 U	0.5 U	0.5 R	0.5 U

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-22S	MA-MW-22S	MA-MW-04S	MA-MW-04S	MA-MW-05S
Sample ID	GWQC	MCL	MA-MW-22S-R1	MA-MW-22S-R2	MA-MW-4S-R1	MA-MW-4S-R2	MA-MW-5S-R1
Sample Date			06/12/2002	09/17/2002	06/12/2002	09/17/2002	06/27/2002
Sample Interval			10 - 21 ft	10 - 21 ft	4 - 14 ft	4 - 14 ft	6 - 16 ft
CLP Sample ID			B0L23	B0N67	B0KZ9	B0N72	B0KZ7
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		5 R	5 U	5 U	5 U	16 J
Benzene	1	5	0.5 R	0.5 U	0.5 U	0.5 U	150 J (AB)
Bromoform	4	80	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Bromomethane	10		0.5 UJ	0.15 J	0.5 U	0.5 U	0.5 R
Carbon disulfide			0.5 R	0.5 U	0.5 U	0.5 U	0.5 R
Carbon tetrachloride	2	5	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Chlorobenzene	4	100	0.5 R	0.5 U	0.5 U	0.5 U	2.3 J
Chlorobromomethane			0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 R
Chloroethane			0.5 UJ	0.5 U	0.5 U	0.5 U	3.9 J
Chloroform	6		0.5 UJ	1.3 J	0.5 U	0.5 U	0.5 R
Chloromethane	30		0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Cyclohexane			0.5 R	0.5 U	0.5 U	0.5 U	33 J
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Dibromochloromethane	10	80	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Dibromoethane-1,2	0.05	0.05	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Dichlorobenzene-1,2	600	600	0.5 R	0.5 U	0.5 U	0.5 U	0.5 R
Dichlorobenzene-1,3	600		0.5 R	0.5 U	0.5 U	0.5 U	0.5 R
Dichlorobenzene-1,4	75	75	0.5 R	0.5 U	0.5 U	0.5 U	0.5 R
Dichlorobromomethane	1	80	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Dichlorodifluoromethane			0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Dichloroethane-1,1	70		0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 R
Dichloroethane-1,2	2	5	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Dichloroethene-1,2 trans	100	100	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Dichloroethylene-1,1	2	7	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Dichloroethylene-1,2 cis	10	70	0.5 UJ	0.5 U	0.5 U	0.5 U	0.71 J
Dichloropropane-1,2	1	5	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Dichloropropene-1,3 cis			0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Dichloropropene-1,3 trans			0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Ethylbenzene	700	700	0.5 R	0.5 U	0.5 U	0.5 U	27 J

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

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GWQC - Groundwater Quality Criteria

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Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-22S	MA-MW-22S	MA-MW-04S	MA-MW-04S	MA-MW-05S
Sample ID	GWQC	MCL	MA-MW-22S-R1	MA-MW-22S-R2	MA-MW-4S-R1	MA-MW-4S-R2	MA-MW-5S-R1
Sample Date			06/12/2002	09/17/2002	06/12/2002	09/17/2002	06/27/2002
Sample Interval			10 - 21 ft	10 - 21 ft	4 - 14 ft	4 - 14 ft	6 - 16 ft
CLP Sample ID			B0L23	B0N67	B0KZ9	B0N72	B0KZ7
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Hexanone-2			5 R	5 U	5 UJ	5 U	5 R
Isopropylbenzene			0.5 R	0.5 U	0.5 U	0.5 U	13 J
Methyl acetate			0.5 R	0.5 U	0.5 R	0.5 U	0.5 R
Methyl cyclohexane			0.5 R	0.5 U	0.5 U	0.5 U	200 J
Methyl ethyl ketone (2-butanone)	300		5 R	1.8 J	5 UJ	1 J	5 R
Methyl isobutyl ketone (4-methyl-2-pent	400		5 R	5 U	5 U	5 U	5 R
Methyl tertiary butyl ether (MTBE)			0.5 R	0.5 U	0.5 U	0.5 U	11 J
Methylene chloride	2	5	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Styrene	100	100	0.5 R	0.5 U	0.5 U	0.5 U	0.5 R
Tetrachloroethane-1,1,2,2	2		0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Tetrachloroethylene	1	5	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Toluene	1000	1000	0.78 J	0.5 U	0.57	0.5 U	2.2 J
Trichlorobenzene-1,2,3			0.5 R	0.5 U	0.5 U	0.5 U	0.5 R
Trichlorobenzene-1,2,4	9	70	0.5 R	0.5 U	0.5 U	0.5 U	0.5 R
Trichloroethane-1,1,1	30	200	0.5 UJ	0.35 J	0.5 U	0.5 U	0.5 R
Trichloroethane-1,1,2	3	5	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Trichloroethylene	1	5	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Trichlorofluoromethane			0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Vinyl chloride	5	2	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 R
Xylenes, total	40	10000	0.5 R	0.5 U	0.5 U	0.5 U	89 J (A)

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-05S	MA-MW-05S	MA-MW-08S	MA-MW-08S	MA-MW-09D
Sample ID	GWQC	MCL	MA-MW-5S-R1-D	MA-MW-5S-R2	MA-MW-8S-R1	MA-MW-8S-R2	MA-MW-9D-R1
Sample Date			06/27/2002	09/25/2002	06/12/2002	09/17/2002	06/19/2002
Sample Interval			6 - 16 ft	6 - 16 ft	4 - 14 ft	4 - 14 ft	44 - 54 ft
CLP Sample ID			B0KZ8	B0N64	B0KY7	B0N70	B0KY6
Chemical Name							
Volatile Organic Compounds (ug/L)							
Acetone	700		10 UJ	100 U	5 R	5 U	5 U
Benzene	1	5	150 J (AB)	110 (AB)	0.5 R	0.5 U	0.5 U
Bromoform	4	80	0.5 R	10 U	0.5 U	0.5 U	0.5 U
Bromomethane	10		0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Carbon disulfide			0.5 R	10 U	0.5 R	0.28 J	0.5 U
Carbon tetrachloride	2	5	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Chlorobenzene	4	100	2.2 J	10 U	0.5 R	0.5 U	0.5 U
Chlorobromomethane			0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Chloroethane			0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Chloroform	6		0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Chloromethane	30		0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Cyclohexane			53 J	28	0.5 R	0.5 U	0.5 U
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Dibromochloromethane	10	80	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Dibromoethane-1,2	0.05	0.05	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Dichlorobenzene-1,2	600	600	0.5 R	10 U	0.5 R	0.5 U	0.5 U
Dichlorobenzene-1,3	600		0.5 R	10 U	0.5 R	0.5 U	0.5 U
Dichlorobenzene-1,4	75	75	0.5 R	10 U	0.5 R	0.5 U	0.5 U
Dichlorobromomethane	1	80	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Dichlorodifluoromethane			0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Dichloroethane-1,1	70		0.5 R	10 U	0.5 UJ	0.5 U	0.68
Dichloroethane-1,2	2	5	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Dichloroethene-1,2 trans	100	100	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Dichloroethylene-1,1	2	7	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Dichloroethylene-1,2 cis	10	70	0.69 J	10 U	0.5 UJ	0.5 U	32 (A)
Dichloropropane-1,2	1	5	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Dichloropropene-1,3 cis			0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Dichloropropene-1,3 trans			0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Ethylbenzene	700	700	26 J	26	0.5 R	0.5 U	0.5 U

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-05S	MA-MW-05S	MA-MW-08S	MA-MW-08S	MA-MW-09D
Sample ID	GWQC	MCL	MA-MW-5S-R1-D	MA-MW-5S-R2	MA-MW-8S-R1	MA-MW-8S-R2	MA-MW-9D-R1
Sample Date			06/27/2002	09/25/2002	06/12/2002	09/17/2002	06/19/2002
Sample Interval			6 - 16 ft	6 - 16 ft	4 - 14 ft	4 - 14 ft	44 - 54 ft
CLP Sample ID			B0KZ8	B0N64	B0KY7	B0N70	B0KY6
Chemical Name							
Volatile Organic Compounds (ug/L)							
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Hexanone-2			5 R	100 U	5 R	5 U	5 U
Isopropylbenzene			13 J	5.8 J	0.5 R	0.5 U	0.5 U
Methyl acetate			0.5 R	10 U	0.5 R	0.5 U	0.5 U
Methyl cyclohexane			190 J	180	0.5 R	0.5 U	0.5 U
Methyl ethyl ketone (2-butanone)	300		5 R	100 U	5 R	5 U	5 U
Methyl isobutyl ketone (4-methyl-2-pent	400		5 R	100 U	5 R	5 U	5 U
Methyl tertiary butyl ether (MTBE)			10 J	10 U	0.5 R	0.5 U	9.2
Methylene chloride	2	5	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Styrene	100	100	0.5 R	10 U	0.5 R	0.5 U	0.5 U
Tetrachloroethane-1,1,2,2	2		0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Tetrachloroethylene	1	5	0.5 R	10 U	0.5 UJ	0.5 U	1.5 (A)
Toluene	1000	1000	2.3 J	10 U	0.5 R	5.9	0.5 U
Trichlorobenzene-1,2,3			0.5 R	10 U	0.5 R	0.5 U	0.5 U
Trichlorobenzene-1,2,4	9	70	0.5 R	10 U	0.5 R	0.5 U	0.5 U
Trichloroethane-1,1,1	30	200	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Trichloroethane-1,1,2	3	5	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Trichloroethylene	1	5	0.5 R	10 U	0.5 UJ	0.5 U	0.94
Trichlorofluoromethane			0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Vinyl chloride	5	2	0.5 R	10 U	0.5 UJ	0.5 U	0.5 U
Xylenes, total	40	10000	90 J (A)	17	0.5 R	0.5 U	0.5 U

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-09D	MA-MW-09S	MA-MW-09S
Sample ID	GWQC	MCL	MA-MW-9D-R2	MA-MW-9S-R1	MA-MW-9S-R2
Sample Date			09/19/2002	06/19/2002	09/19/2002
Sample Interval			44 - 54 ft	16 - 26 ft	16 - 26 ft
CLP Sample ID			B0N65	B0KX6	B0N69
Chemical Name					
Volatile Organic Compounds (ug/L)					
Acetone	700		5 U	5 R	5 U
Benzene	1	5	0.19 J	0.5 R	0.58
Bromoform	4	80	0.24 J	0.64 J	0.5 U
Bromomethane	10		0.5 U	0.5 R	0.5 U
Carbon disulfide			0.5 U	0.5 R	0.5 U
Carbon tetrachloride	2	5	0.5 U	0.5 R	0.5 U
Chlorobenzene	4	100	0.37 J	0.5 R	0.44 J
Chlorobromomethane			0.5 U	0.5 R	0.5 UJ
Chloroethane			0.5 U	0.5 R	0.5 U
Chloroform	6		0.5 U	0.5 R	0.5 UJ
Chloromethane	30		0.5 U	0.5 R	0.5 U
Cyclohexane			0.5 UJ	0.5 R	0.5 U
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 U	0.5 R	0.5 U
Dibromochloromethane	10	80	0.5 U	0.5 R	0.5 U
Dibromoethane-1,2	0.05	0.05	0.5 U	0.5 R	0.5 U
Dichlorobenzene-1,2	600	600	0.51	0.5 R	0.25 J
Dichlorobenzene-1,3	600		0.5 U	0.5 R	0.5 U
Dichlorobenzene-1,4	75	75	0.24 J	0.5 R	0.2 J
Dichlorobromomethane	1	80	0.5 UJ	0.5 R	0.5 U
Dichlorodifluoromethane			0.5 U	0.5 R	0.5 U
Dichloroethane-1,1	70		1.8	1.4 J	0.65 J
Dichloroethane-1,2	2	5	0.5 U	0.5 R	0.5 U
Dichloroethene-1,2 trans	100	100	0.19 J	0.5 R	0.18 J
Dichloroethylene-1,1	2	7	0.5 U	0.5 R	0.5 U
Dichloroethylene-1,2 cis	10	70	6.6	4.4 J	23 (A)
Dichloropropane-1,2	1	5	0.74 J	1.2 J (A)	0.64
Dichloropropene-1,3 cis			0.18 J	0.5 R	0.5 U
Dichloropropene-1,3 trans			0.5 U	0.5 R	0.5 U
Ethylbenzene	700	700	0.5 U	0.5 R	0.5 U

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.9
Groundwater - Volatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-09D	MA-MW-09S	MA-MW-09S
Sample ID	GWQC	MCL	MA-MW-9D-R2	MA-MW-9S-R1	MA-MW-9S-R2
Sample Date			09/19/2002	06/19/2002	09/19/2002
Sample Interval			44 - 54 ft	16 - 26 ft	16 - 26 ft
CLP Sample ID			B0N65	B0KX6	B0N69
Chemical Name					
Volatile Organic Compounds (ug/L)					
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 U	0.5 R	0.5 U
Hexanone-2			5 U	5 R	5 U
Isopropylbenzene			0.5 U	0.5 R	0.5 U
Methyl acetate			0.5 R	0.5 R	0.5 U
Methyl cyclohexane			0.5 UJ	0.5 R	0.5 U
Methyl ethyl ketone (2-butanone)	300		2.2 J	5 R	5 U
Methyl isobutyl ketone (4-methyl-2-pent	400		5 U	5 R	5 U
Methyl tertiary butyl ether (MTBE)			5.7 J	9.4 J	5.5 J
Methylene chloride	2	5	0.5 U	0.5 R	0.5 U
Styrene	100	100	0.5 U	0.5 R	0.5 U
Tetrachloroethane-1,1,2,2	2		0.5 U	0.5 R	0.5 U
Tetrachloroethylene	1	5	0.78	0.86 J	1.5 (A)
Toluene	1000	1000	0.5 U	0.5 R	0.5 U
Trichlorobenzene-1,2,3			0.5 U	0.5 U	0.5 U
Trichlorobenzene-1,2,4	9	70	0.5 U	0.5 U	0.5 U
Trichloroethane-1,1,1	30	200	0.5 U	0.5 R	0.5 U
Trichloroethane-1,1,2	3	5	0.5 U	0.5 R	0.25 J
Trichloroethylene	1	5	1.3 (A)	1.7 J (A)	1.7 (A)
Trichlorofluoromethane			0.5 U	0.5 R	0.5 U
Vinyl chloride	5	2	1	0.5 R	0.5 U
Xylenes, total	40	10000	0.5 U	0.5 R	0.5 U

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ

Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-10S	MA-MW-10S	MA-MW-11M	MA-MW-11M	MA-MW-11S
Sample ID	GWQC	MCL	MA-MW-10S-R1	MA-MW-10S-R2	MA-MW-11M-R1	MA-MW-11M-R2	MA-MW-11S-R1
Sample Date			06/19/2002	09/19/2002	06/20/2002	09/23/2002	06/20/2002
Sample Interval			8 - 18 ft	8 - 18 ft	46 - 56 ft	46 - 56 ft	11 - 21 ft
CLP Sample ID			B0KZ3	B0QB2	B0KZ6	B0QB3	B0KZ5
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	5 UJ	5 U	5 U
Acenaphthylene			5 U	5 U	5 UJ	5 U	5 U
Acetophenone			5 U	5 U	5 UJ	5 U	5 U
Anthracene	2000		5 U	5 U	5 UJ	5 U	5 UJ
Atrazine	3	3	5 U	5 UJ	5 UJ	5 UJ	5 UJ
Benzaldehyde			5 U	5 U	5 UJ	5 U	5 U
Benzo(a)anthracene			5 U	5 U	5 UJ	5 U	5 U
Benzo(a)pyrene		0.2	5 U	5 U	5 UJ	5 U	5 UJ
Benzo(b)fluoranthene			5 U	5 U	5 UJ	5 U	5 UJ
Benzo(g,h,i)perylene			5 U	5 U	5 UJ	5 U	5 UJ
Benzo(k)fluoranthene			5 U	5 U	5 UJ	5 U	5 UJ
Biphenyl			5 U	5 U	5 UJ	5 U	5 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 UJ	5 U	5 U
Butylbenzyl phthalate	100		5 U	5 U	5 UJ	5 U	5 U
Caprolactam			5 U	5 UJ	5 UJ	5 U	5 U
Chloroaniline-4			5 U	5 U	5 UJ	5 U	5 U
Chloronaphthalene-2			5 U	5 U	5 UJ	5 U	5 U
Chlorophenol-2	40		5 U	5 UJ	5 UJ	5 U	5 U
Chlorophenyl-4 phenyl ether			5 U	5 U	5 UJ	5 U	5 U
Chrysene			5 U	5 U	5 UJ	5 U	5 U
Cresol-4,6-dinitro-ortho			20 U	20 U	20 UJ	20 UJ	20 U
Cresol-o			5 U	5 U	5 UJ	5 U	5 U
Cresol-p			5 U	5 U	5 UJ	5 U	5 U
Cresol-parachloro-meta			5 U	5 U	5 UJ	5 U	5 U
Dibenzo(a,h)anthracene			5 U	5 U	5 UJ	5 U	5 UJ
Dibenzofuran			5 U	5 U	5 UJ	5 U	5 U
Dichlorobenzidine-3,3	60		5 U	5 R	5 UJ	5 UJ	5 U
Dichlorophenol-2,4	20		5 U	5 U	5 UJ	5 U	5 U
Dimethylphenol-2,4	100		5 U	5 U	5 UJ	5 U	5 U

J - Reported value estimated in quantity

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-10S	MA-MW-10S	MA-MW-11M	MA-MW-11M	MA-MW-11S
Sample ID	GWQC	MCL	MA-MW-10S-R1	MA-MW-10S-R2	MA-MW-11M-R1	MA-MW-11M-R2	MA-MW-11S-R1
Sample Date			06/19/2002	09/19/2002	06/20/2002	09/23/2002	06/20/2002
Sample Interval			8 - 18 ft	8 - 18 ft	46 - 56 ft	46 - 56 ft	11 - 21 ft
CLP Sample ID			B0KZ3	B0QB2	B0KZ6	B0QB3	B0KZ5
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 UJ	20 U	20 U
Dinitrotoluene-2,4	10		5 U	5 U	5 UJ	5 U	5 U
Dinitrotoluene-2,6			5 U	5 U	5 UJ	5 U	5 U
Ether, bis(2-chloroethyl)	10		5 U	5 U	2.1 J	2.8 J	5 U
Ether, bis-chloroisopropyl			5 U	5 UJ	5 UJ	5 U	5 U
Fluoranthene	300		5 U	5 U	5 UJ	5 U	5 U
Fluorene	300		5 U	5 U	5 UJ	5 U	5 U
Hexachlorobenzene	10	1	5 U	5 U	5 UJ	5 U	5 UJ
Hexachlorobutadiene	1		5 U	5 U	5 UJ	5 U	5 U
Hexachlorocyclopentadiene	50	50	5 U	5 U	5 UJ	5 U	5 U
Hexachloroethane	10		5 U	5 U	5 UJ	5 U	5 U
Indeno(1,2,3-cd)pyrene			5 U	5 U	5 UJ	5 U	5 UJ
Isophorone	100		5 U	5 U	5 UJ	1.1 J	5 U
Methane, bis(2-chloroethoxy)			5 U	5 U	5 UJ	5 U	5 U
Methylnaphthalene-2			5 U	5 U	5 UJ	5 U	5 U
Naphthalene			5 U	5 U	5 UJ	5 U	5 U
Nitroaniline-2			20 U	20 U	20 UJ	20 U	20 U
Nitroaniline-3			20 U	20 U	20 UJ	20 U	20 U
Nitroaniline-4			20 U	20 U	20 UJ	20 U	20 U
Nitrobenzene	10		5 U	5 U	5 UJ	5 U	5 U
Nitrophenol-2			5 U	5 U	5 UJ	5 U	5 U
Nitrophenol-4			20 U	20 U	20 UJ	20 U	20 U
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 UJ	5 U	5 U
Nitrosodiphenylamine-n	20		5 U	5 UJ	5 UJ	5 U	5 U
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 UJ	5 U	5 U
Phenanthrene			5 U	5 U	5 UJ	5 U	5 UJ
Phenol	4000		5 U	5 U	5 UJ	5 U	5 U
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	1.4 J	5 UJ	5 U	5 U
Phthalate, di-n-butyl	900		5 U	5 U	5 UJ	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ

Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-10S	MA-MW-10S	MA-MW-11M	MA-MW-11M	MA-MW-11S
Sample ID	GWQC	MCL	MA-MW-10S-R1	MA-MW-10S-R2	MA-MW-11M-R1	MA-MW-11M-R2	MA-MW-11S-R1
Sample Date			06/19/2002	09/19/2002	06/20/2002	09/23/2002	06/20/2002
Sample Interval			8 - 18 ft	8 - 18 ft	46 - 56 ft	46 - 56 ft	11 - 21 ft
CLP Sample ID			B0KZ3	B0QB2	B0KZ6	B0QB3	B0KZ5
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 UJ	5 U	5 U
Phthalate, diethyl	5000		5 U	5 U	5 UJ	5 U	5 U
Phthalate, dimethyl			5 U	5 U	5 UJ	5 U	5 U
Pyrene	200		5 U	5 U	5 UJ	5 U	5 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 UJ	5 U	5 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 UJ	20 U	20 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 UJ	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-11S	MA-MW-12M	MA-MW-12M	MA-MW-12S	MA-MW-12S
Sample ID	GWQC	MCL	MA-MW-11S-R2	MA-MW-12M-R1	MA-MW-12M-R2	MA-MW-12S-R1	MA-MW-12S-R2
Sample Date			09/23/2002	06/18/2002	09/24/2002	06/18/2002	09/24/2002
Sample Interval			11 - 21 ft	38.1 - 48.1 ft	38.1 - 48.1 ft	5.4 - 15.4 ft	5.4 - 15.4 ft
CLP Sample ID			B0QB7	B0KY5	B0QB6	B0KX9	B0QB5
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	5 U	5 U	5 U
Acenaphthylene			5 U	5 U	5 U	5 U	5 U
Acetophenone			5 U	5 U	5 U	5 U	5 U
Anthracene	2000		5 U	5 UJ	5 U	5 UJ	5 U
Atrazine	3	3	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Benzaldehyde			5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene			5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene		0.2	5 U	5 R	5 U	5 UJ	5 U
Benzo(b)fluoranthene			5 U	5 R	5 U	5 UJ	5 U
Benzo(g,h,i)perylene			5 U	5 R	5 U	5 UJ	5 U
Benzo(k)fluoranthene			5 U	5 R	5 U	5 UJ	5 U
Biphenyl			5 U	5 U	5 U	5 U	5 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 U	5 U	5 U
Butylbenzyl phthalate	100		5 U	5 U	5 U	5 U	5 U
Caprolactam			5 U	5 U	5 U	5 U	5 U
Chloroaniline-4			5 U	5 U	5 U	5 R	5 U
Chloronaphthalene-2			5 U	5 U	5 U	5 U	5 U
Chlorophenol-2	40		5 U	5 U	5 U	5 U	5 U
Chlorophenyl-4 phenyl ether			5 U	5 U	5 U	5 U	5 U
Chrysene			5 U	5 U	5 U	5 U	5 U
Cresol-4,6-dinitro-ortho			20 UJ	20 U	20 UJ	20 U	20 U
Cresol-o			5 U	5 U	5 U	5 U	5 U
Cresol-p			5 U	5 U	5 U	5 U	5 U
Cresol-parachloro-meta			5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene			5 U	5 R	5 U	5 UJ	5 U
Dibenzofuran			5 U	5 U	5 U	5 U	5 U
Dichlorobenzidine-3,3	60		5 UJ	5 U	5 UJ	5 R	5 UJ
Dichlorophenol-2,4	20		5 U	5 U	5 U	5 U	5 U
Dimethylphenol-2,4	100		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-11S	MA-MW-12M	MA-MW-12M	MA-MW-12S	MA-MW-12S
Sample ID	GWQC	MCL	MA-MW-11S-R2	MA-MW-12M-R1	MA-MW-12M-R2	MA-MW-12S-R1	MA-MW-12S-R2
Sample Date			09/23/2002	06/18/2002	09/24/2002	06/18/2002	09/24/2002
Sample Interval			11 - 21 ft	38.1 - 48.1 ft	38.1 - 48.1 ft	5.4 - 15.4 ft	5.4 - 15.4 ft
CLP Sample ID			B0QB7	B0KY5	B0QB6	B0KX9	B0QB5
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 U	20 U	20 U
Dinitrotoluene-2,4	10		5 U	5 U	5 U	5 U	5 U
Dinitrotoluene-2,6			5 U	5 U	5 U	5 U	5 U
Ether, bis(2-chloroethyl)	10		5 U	5 U	5 U	5 U	5 U
Ether, bis-chloroisopropyl			5 U	5 U	5 U	5 U	5 U
Fluoranthene	300		5 U	5 U	5 U	5 U	5 U
Fluorene	300		5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	10	1	5 U	5 UJ	5 U	5 UJ	5 U
Hexachlorobutadiene	1		5 U	5 U	5 U	5 U	5 U
Hexachlorocyclopentadiene	50	50	5 U	5 U	5 U	5 R	5 U
Hexachloroethane	10		5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene			5 U	5 R	5 U	5 UJ	5 U
Isophorone	100		5 U	5 U	5 U	5 U	5 U
Methane, bis(2-chloroethoxy)			5 U	5 U	5 U	5 U	5 U
Methylnaphthalene-2			5 U	5 U	5 U	5 U	5 U
Naphthalene			5 U	5 U	5 U	5 U	5 U
Nitroaniline-2			20 U	20 U	20 U	20 U	20 U
Nitroaniline-3			20 U	20 U	20 U	20 U	20 U
Nitroaniline-4			20 U	20 U	20 U	20 U	20 U
Nitrobenzene	10		5 U	5 U	5 U	5 U	5 U
Nitrophenol-2			5 U	5 U	5 U	5 U	5 U
Nitrophenol-4			20 U	20 U	20 U	20 U	20 U
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 U	5 U	5 U
Nitrosodiphenylamine-n	20		5 U	5 U	5 U	5 U	5 U
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 U	5 U	5 U
Phenanthrene			5 U	5 UJ	5 U	5 UJ	5 U
Phenol	4000		5 U	5 U	5 U	5 U	5 U
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	5 U	1.3 J	5 U	5 U
Phthalate, di-n-butyl	900		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-11S	MA-MW-12M	MA-MW-12M	MA-MW-12S	MA-MW-12S
Sample ID	GWQC	MCL	MA-MW-11S-R2	MA-MW-12M-R1	MA-MW-12M-R2	MA-MW-12S-R1	MA-MW-12S-R2
Sample Date			09/23/2002	06/18/2002	09/24/2002	06/18/2002	09/24/2002
Sample Interval			11 - 21 ft	38.1 - 48.1 ft	38.1 - 48.1 ft	5.4 - 15.4 ft	5.4 - 15.4 ft
CLP Sample ID			B0QB7	B0KY5	B0QB6	B0KX9	B0QB5
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 U	5 U	5 U
Phthalate, diethyl	5000		5 U	5 U	5 U	5 U	5 U
Phthalate, dimethyl			5 U	5 U	5 U	5 U	5 U
Pyrene	200		5 U	5 U	5 U	5 U	5 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 U	5 U	5 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 U	20 U	20 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13S
Sample ID	GWQC	MCL	MA-MW-13M-R1	MA-MW-13M-R1-D	MA-MW-13M-R2	MA-MW-13M-R2-D	MA-MW-13S-R1
Sample Date			06/27/2002	06/27/2002	09/25/2002	09/25/2002	06/28/2002
Sample Interval			48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	6.6 - 16.6 ft
CLP Sample ID			B0KY1	B0KX7	B0QC0	B0QB0	B0KX8
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	5 U	5 U	300 U
Acenaphthylene			5 U	5 U	5 U	5 U	300 U
Acetophenone			5 U	5 U	5 U	5 U	300 U
Anthracene	2000		5 U	5 U	5 U	5 U	300 U
Atrazine	3	3	5 U	5 U	5 UJ	5 UJ	300 U
Benzaldehyde			5 U	5 U	5 U	5 U	300 U
Benzo(a)anthracene			5 U	5 U	5 U	5 U	300 U
Benzo(a)pyrene		0.2	5 UJ	5 UJ	5 U	5 U	300 U
Benzo(b)fluoranthene			5 UJ	5 UJ	5 U	5 U	300 U
Benzo(g,h,i)perylene			5 UJ	5 UJ	5 U	5 U	300 U
Benzo(k)fluoranthene			5 UJ	5 UJ	5 U	5 U	300 U
Biphenyl			5 U	5 U	5 U	5 U	300 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 U	5 U	300 U
Butylbenzyl phthalate	100		5 U	5 U	5 U	5 U	300 U
Caprolactam			5 U	5 U	5 U	5 U	300 U
Chloroaniline-4			5 U	5 U	5 U	5 U	300 U
Chloronaphthalene-2			5 U	5 U	5 U	5 U	300 U
Chlorophenol-2	40		5 U	5 U	5 U	5 U	300 U
Chlorophenyl-4 phenyl ether			5 U	5 U	5 U	5 U	300 U
Chrysene			5 U	5 U	5 U	5 U	300 U
Cresol-4,6-dinitro-ortho			20 U	20 U	20 U	20 UJ	1200 U
Cresol-o			5 U	5 U	5 U	5 U	490
Cresol-p			5 U	5 U	5 U	5 U	1400
Cresol-parachloro-meta			5 U	5 U	5 U	5 U	300 U
Dibenzo(a,h)anthracene			5 UJ	5 UJ	5 U	5 U	300 U
Dibenzofuran			5 U	5 U	5 U	5 U	300 U
Dichlorobenzidine-3,3	60		5 U	5 U	5 UJ	5 UJ	300 U
Dichlorophenol-2,4	20		5 U	5 U	5 U	5 U	300 U
Dimethylphenol-2,4	100		5 U	5 U	5 U	5 U	300 U

J - Reported value estimated in quantity

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13S
Sample ID	GWQC	MCL	MA-MW-13M-R1	MA-MW-13M-R1-D	MA-MW-13M-R2	MA-MW-13M-R2-D	MA-MW-13S-R1
Sample Date			06/27/2002	06/27/2002	09/25/2002	09/25/2002	06/28/2002
Sample Interval			48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	6.6 - 16.6 ft
CLP Sample ID			B0KY1	B0KX7	B0QC0	B0QB0	B0KX8
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 U	20 U	1200 U
Dinitrotoluene-2,4	10		5 U	5 U	5 U	5 U	300 U
Dinitrotoluene-2,6			5 U	5 U	5 U	5 U	300 U
Ether, bis(2-chloroethyl)	10		5 U	5 U	5 U	5 U	300 U
Ether, bis-chloroisopropyl			5 U	5 U	5 U	5 U	300 U
Fluoranthene	300		5 U	5 U	5 U	5 U	300 U
Fluorene	300		5 U	5 U	5 U	5 U	300 U
Hexachlorobenzene	10	1	5 U	5 U	5 U	5 U	300 U
Hexachlorobutadiene	1		5 U	5 U	5 U	5 U	300 U
Hexachlorocyclopentadiene	50	50	5 U	5 U	5 U	5 U	300 U
Hexachloroethane	10		5 U	5 U	5 U	5 U	300 U
Indeno(1,2,3-cd)pyrene			5 UJ	5 UJ	5 U	5 U	300 U
Isophorone	100		5 U	5 U	5 U	5 U	300 U
Methane, bis(2-chloroethoxy)			5 U	5 U	5 U	5 U	300 U
Methylnaphthalene-2			5 U	5 U	5 U	5 U	300 U
Naphthalene			5 U	5 U	4.6 J	1.8 J	2600
Nitroaniline-2			20 U	20 U	20 U	20 U	1200 U
Nitroaniline-3			20 U	20 U	20 U	20 U	1200 U
Nitroaniline-4			20 U	20 U	20 U	20 U	1200 U
Nitrobenzene	10		5 U	5 U	5 U	5 U	300 U
Nitrophenol-2			5 U	5 U	5 U	5 U	300 U
Nitrophenol-4			20 U	20 U	20 U	20 U	1200 U
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 U	5 U	300 U
Nitrosodiphenylamine-n	20		5 U	5 U	5 U	5 U	70 J (A)
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 U	5 U	300 U
Phenanthrene			5 U	5 U	5 U	5 U	300 U
Phenol	4000		5 U	5 U	1.8 J	5 U	7200 (A)
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	5 U	5 U	5 U	300 U
Phthalate, di-n-butyl	900		5 U	5 U	5 U	1.1 J	300 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13S
Sample ID	GWQC	MCL	MA-MW-13M-R1	MA-MW-13M-R1-D	MA-MW-13M-R2	MA-MW-13M-R2-D	MA-MW-13S-R1
Sample Date			06/27/2002	06/27/2002	09/25/2002	09/25/2002	06/28/2002
Sample Interval			48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	6.6 - 16.6 ft
CLP Sample ID			B0KY1	B0KX7	B0QC0	B0QB0	B0KX8
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 U	5 U	300 U
Phthalate, diethyl	5000		5 U	5 U	5 U	5 U	300 U
Phthalate, dimethyl			5 U	5 U	5 U	5 U	300 U
Pyrene	200		5 U	5 U	5 U	5 U	300 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 U	5 U	300 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 U	20 U	1200 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 U	5 U	300 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-14D	MA-MW-14D	MA-MW-14R	MA-MW-14R	MA-MW-14S
Sample ID	GWQC	MCL	MA-MW-14D-R1	MA-MW-14D-R2	MA-MW-14R-R1	MA-MW-14R-R2	MA-MW-14S-R1
Sample Date			06/18/2002	09/24/2002	06/18/2002	09/24/2002	06/18/2002
Sample Interval			170 - 188 ft	170 - 188 ft	109.5 - 119.5 ft	109.5 - 119.5 ft	7 - 20 ft
CLP Sample ID			B0KY2	B0QB9	B0KY0	B0QC3	B0KY4
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	5 U	5 U	5 U
Acenaphthylene			5 U	5 U	5 U	5 U	5 U
Acetophenone			5 U	5 U	5 U	5 U	5 U
Anthracene	2000		5 UJ	5 U	5 U	5 U	5 U
Atrazine	3	3	5 UJ	5 UJ	5 U	5 UJ	5 U
Benzaldehyde			5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene			5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene		0.2	5 UJ	5 U	5 U	5 U	5 U
Benzo(b)fluoranthene			5 UJ	5 U	5 U	5 U	5 U
Benzo(g,h,i)perylene			5 UJ	5 U	5 U	5 U	5 U
Benzo(k)fluoranthene			5 UJ	5 U	5 U	5 U	5 U
Biphenyl			5 U	5 U	5 U	5 U	5 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 U	5 U	5 U
Butylbenzyl phthalate	100		5 U	5 U	5 U	5 U	5 U
Caprolactam			5 U	5 U	5 U	5 U	5 U
Chloroaniline-4			5 U	5 U	5 U	5 U	5 R
Chloronaphthalene-2			5 U	5 U	5 U	5 U	5 U
Chlorophenol-2	40		5 U	5 U	5 U	5 U	5 U
Chlorophenyl-4 phenyl ether			5 U	5 U	5 U	5 U	5 U
Chrysene			5 U	5 U	5 U	5 U	5 U
Cresol-4,6-dinitro-ortho			20 U	20 UJ	20 U	20 UJ	20 U
Cresol-o			5 U	5 UJ	5 U	5 U	5 U
Cresol-p			5 U	5 UJ	5 U	5 U	5 U
Cresol-parachloro-meta			5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene			5 UJ	5 U	5 U	5 U	5 U
Dibenzofuran			5 U	5 U	5 U	5 U	5 U
Dichlorobenzidine-3,3	60		5 U	5 UJ	5 U	5 UJ	5 R
Dichlorophenol-2,4	20		5 U	5 U	5 U	5 U	5 U
Dimethylphenol-2,4	100		5 U	5 UJ	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ

Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-14D	MA-MW-14D	MA-MW-14R	MA-MW-14R	MA-MW-14S
Sample ID	GWQC	MCL	MA-MW-14D-R1	MA-MW-14D-R2	MA-MW-14R-R1	MA-MW-14R-R2	MA-MW-14S-R1
Sample Date			06/18/2002	09/24/2002	06/18/2002	09/24/2002	06/18/2002
Sample Interval			170 - 188 ft	170 - 188 ft	109.5 - 119.5 ft	109.5 - 119.5 ft	7 - 20 ft
CLP Sample ID			B0KY2	B0QB9	B0KY0	B0QC3	B0KY4
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 U	20 U	20 R
Dinitrotoluene-2,4	10		5 U	5 U	5 U	5 U	5 U
Dinitrotoluene-2,6			5 U	5 U	5 U	5 U	5 U
Ether, bis(2-chloroethyl)	10		5 U	5 U	5 U	5 U	5 U
Ether, bis-chloroisopropyl			5 U	5 U	5 U	5 U	5 U
Fluoranthene	300		5 U	5 U	5 U	5 U	5 U
Fluorene	300		5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	10	1	5 UJ	5 U	5 U	5 U	5 U
Hexachlorobutadiene	1		5 U	5 U	5 U	5 U	5 U
Hexachlorocyclopentadiene	50	50	5 U	5 U	5 U	5 U	5 R
Hexachloroethane	10		5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene			5 UJ	5 U	5 U	5 U	5 U
Isophorone	100		5 U	5 U	5 U	5 U	5 U
Methane, bis(2-chloroethoxy)			5 U	5 U	5 U	5 U	5 U
Methylnaphthalene-2			5 U	5 U	5 U	5 U	5 U
Naphthalene			5 U	5 U	5 U	5 U	5 U
Nitroaniline-2			20 U	20 U	20 U	20 U	20 R
Nitroaniline-3			20 U	20 U	20 U	20 U	20 R
Nitroaniline-4			20 U	20 U	20 U	20 U	20 R
Nitrobenzene	10		5 U	5 U	5 U	5 U	5 U
Nitrophenol-2			5 U	5 U	5 U	5 U	5 U
Nitrophenol-4			20 U	20 U	20 U	20 U	20 R
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 U	5 U	5 U
Nitrosodiphenylamine-n	20		5 U	5 U	5 U	5 U	5 U
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 U	5 U	5 U
Phenanthrene			5 UJ	5 U	5 U	5 U	5 U
Phenol	4000		5 U	5 U	5 U	5 U	1.1 J
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	5 U	5 U	5 U	5 U
Phthalate, di-n-butyl	900		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-14D	MA-MW-14D	MA-MW-14R	MA-MW-14R	MA-MW-14S
Sample ID	GWQC	MCL	MA-MW-14D-R1	MA-MW-14D-R2	MA-MW-14R-R1	MA-MW-14R-R2	MA-MW-14S-R1
Sample Date			06/18/2002	09/24/2002	06/18/2002	09/24/2002	06/18/2002
Sample Interval			170 - 188 ft	170 - 188 ft	109.5 - 119.5 ft	109.5 - 119.5 ft	7 - 20 ft
CLP Sample ID			B0KY2	B0QB9	B0KY0	B0QC3	B0KY4
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 U	5 U	5 U
Phthalate, diethyl	5000		5 U	5 U	5 U	5 U	5 U
Phthalate, dimethyl			5 U	5 U	5 U	5 U	5 U
Pyrene	200		5 U	5 U	5 U	5 U	5 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 U	5 U	5 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 U	20 U	20 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 U	5 U	5 U

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05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ

Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-14S	MA-MW-14S	MA-MW-15M	MA-MW-15M	MA-MW-15S
Sample ID	GWQC	MCL	MA-MW-14S-R2	MA-MW-14S-R2-D	MA-MW-15M-R1	MA-MW-15M-R2	MA-MW-15S-R1
Sample Date			09/24/2002	09/24/2002	06/19/2002	09/23/2002	06/19/2002
Sample Interval			7 - 20 ft	7 - 20 ft	59.4 - 69.4 ft	59.4 - 69.4 ft	6.8 - 16.8 ft
CLP Sample ID			B0QC1	B0QA9	B0KY8	B0N57	B0KZ0
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	5 U	5 U	5 U
Acenaphthylene			5 U	5 U	5 U	5 U	5 U
Acetophenone			5 U	5 U	5 U	5 U	5 U
Anthracene	2000		5 U	5 U	5 U	5 U	5 U
Atrazine	3	3	5 UJ	5 UJ	5 U	5 UJ	5 U
Benzaldehyde			5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene			5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene		0.2	5 U	5 U	5 U	5 U	5 UJ
Benzo(b)fluoranthene			5 U	5 U	5 U	5 U	5 UJ
Benzo(g,h,i)perylene			5 U	5 U	5 U	5 U	5 UJ
Benzo(k)fluoranthene			5 U	5 U	5 U	5 U	5 UJ
Biphenyl			5 U	5 U	5 U	5 U	5 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 U	5 U	5 U
Butylbenzyl phthalate	100		1.2 J	1.3 J	5 U	5 U	5 U
Caprolactam			5 U	5 U	5 U	5 UJ	5 U
Chloroaniline-4			5 U	5 U	5 U	5 U	5 R
Chloronaphthalene-2			5 U	5 U	5 U	5 U	5 U
Chlorophenol-2	40		5 U	5 U	5 U	5 UJ	5 U
Chlorophenyl-4 phenyl ether			5 U	5 U	5 U	5 U	5 U
Chrysene			5 U	5 U	5 U	5 U	5 U
Cresol-4,6-dinitro-ortho			20 UJ	20 UJ	20 U	20 U	20 U
Cresol-o			5 U	5 U	5 U	5 U	5 U
Cresol-p			5 U	5 U	5 U	5 U	5 U
Cresol-parachloro-meta			5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene			5 U	5 U	5 U	5 U	5 UJ
Dibenzofuran			5 U	5 U	5 U	5 U	5 U
Dichlorobenzidine-3,3	60		5 UJ	5 UJ	5 U	5 R	5 R
Dichlorophenol-2,4	20		5 U	5 U	5 U	5 U	5 U
Dimethylphenol-2,4	100		5 U	5 U	5 U	5 U	1.7 J

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Exceedances highlighted

05/26/2004

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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-14S	MA-MW-14S	MA-MW-15M	MA-MW-15M	MA-MW-15S
Sample ID	GWQC	MCL	MA-MW-14S-R2	MA-MW-14S-R2-D	MA-MW-15M-R1	MA-MW-15M-R2	MA-MW-15S-R1
Sample Date			09/24/2002	09/24/2002	06/19/2002	09/23/2002	06/19/2002
Sample Interval			7 - 20 ft	7 - 20 ft	59.4 - 69.4 ft	59.4 - 69.4 ft	6.8 - 16.8 ft
CLP Sample ID			B0QC1	B0QA9	B0KY8	B0N57	B0KZ0
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 U	20 U	20 U
Dinitrotoluene-2,4	10		5 U	5 U	5 U	5 U	5 U
Dinitrotoluene-2,6			5 U	5 U	5 U	5 U	5 U
Ether, bis(2-chloroethyl)	10		5 U	5 U	5 U	5 U	5 U
Ether, bis-chloroisopropyl			5 U	5 U	5 U	5 U	5 U
Fluoranthene	300		5 U	5 U	5 U	5 U	5 U
Fluorene	300		5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	10	1	5 U	5 U	5 U	5 U	5 U
Hexachlorobutadiene	1		5 U	5 U	5 U	5 U	5 U
Hexachlorocyclopentadiene	50	50	5 U	5 U	5 U	5 U	5 R
Hexachloroethane	10		5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene			5 U	5 U	5 U	5 U	5 U
Isophorone	100		5 U	5 U	5 U	5 U	5 U
Methane, bis(2-chloroethoxy)			5 U	5 U	5 U	5 U	5 U
Methylnaphthalene-2			5 U	5 U	5 U	5 U	5 U
Naphthalene			5 U	5 U	5 U	5 U	5 U
Nitroaniline-2			20 U	20 U	20 U	20 U	20 U
Nitroaniline-3			20 U	20 U	20 U	20 U	20 U
Nitroaniline-4			20 U	20 U	20 U	20 U	20 U
Nitrobenzene	10		5 U	5 U	5 U	5 U	5 U
Nitrophenol-2			5 U	5 U	5 U	5 U	5 U
Nitrophenol-4			20 U	20 U	20 U	20 U	20 U
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 U	5 U	5 U
Nitrosodiphenylamine-n	20		5 U	5 U	5 U	5 U	5 U
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 U	5 U	5 U
Phenanthrene			5 U	5 U	5 U	5 U	5 U
Phenol	4000		5 U	5 U	5 U	5 U	5 U
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	5 U	5 U	5 U	5 U
Phthalate, di-n-butyl	900		1.1 J	1.3 J	5 U	5 U	5 U

J - Reported value estimated in quantity
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Exceedances highlighted

05/26/2004
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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-14S	MA-MW-14S	MA-MW-15M	MA-MW-15M	MA-MW-15S
Sample ID	GWQC	MCL	MA-MW-14S-R2	MA-MW-14S-R2-D	MA-MW-15M-R1	MA-MW-15M-R2	MA-MW-15S-R1
Sample Date			09/24/2002	09/24/2002	06/19/2002	09/23/2002	06/19/2002
Sample Interval			7 - 20 ft	7 - 20 ft	59.4 - 69.4 ft	59.4 - 69.4 ft	6.8 - 16.8 ft
CLP Sample ID			B0QC1	B0QA9	B0KY8	B0N57	B0KZ0
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 U	5 U	5 U
Phthalate, diethyl	5000		5 U	5 U	5 U	5 U	5 U
Phthalate, dimethyl			5 U	5 U	5 U	5 U	5 U
Pyrene	200		5 U	5 U	5 U	5 U	5 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 U	5 U	5 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 U	20 U	20 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 U	5 U	5 U

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(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-16S	MA-MW-16S	MA-MW-17M	MA-MW-17M	MA-MW-17S
Sample ID	GWQC	MCL	MA-MW-16S-R1	MA-MW-16S-R2	MA-MW-17M-R1	MA-MW-17M-R2	MA-MW-17S-R1
Sample Date			06/27/2002	09/25/2002	06/14/2002	09/18/2002	06/14/2002
Sample Interval			6.5 - 16.5 ft	6.5 - 16.5 ft	41.82 - 51.82 ft	41.82 - 51.82 ft	8 - 18 ft
CLP Sample ID			B0L33	B0QD7	B0L34	B0QE0	B0L35
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	5 U	5 U	5 U
Acenaphthylene			5 U	5 U	5 U	5 U	5 U
Acetophenone			5 U	5 U	5 U	5 U	5 U
Anthracene	2000		5 U	5 U	5 UJ	5 UJ	5 U
Atrazine	3	3	5 U	5 UJ	5 UJ	5 UJ	5 U
Benzaldehyde			5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene			5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene		0.2	5 U	5 U	5 UJ	5 U	5 U
Benzo(b)fluoranthene			5 U	5 U	5 UJ	5 U	5 U
Benzo(g,h,i)perylene			5 U	5 U	5 UJ	5 U	5 U
Benzo(k)fluoranthene			5 U	5 U	5 UJ	5 U	5 U
Biphenyl			5 U	5 U	5 U	5 U	5 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 U	5 U	5 U
Butylbenzyl phthalate	100		5 U	5 U	5 U	5 U	5 U
Caprolactam			5 U	5 U	5 U	5 UJ	5 U
Chloroaniline-4			5 U	5 U	5 U	5 U	5 U
Chloronaphthalene-2			5 U	5 U	5 U	5 U	5 U
Chlorophenol-2	40		5 U	5 U	5 U	5 U	5 U
Chlorophenyl-4 phenyl ether			5 U	5 U	5 U	5 U	5 U
Chrysene			5 U	5 U	5 U	5 U	5 U
Cresol-4,6-dinitro-ortho			20 UJ	20 U	20 U	20 UJ	20 U
Cresol-o			2.9 J	1.4 J	5 U	5 U	5 U
Cresol-p			5.9	1.3 J	5 U	5 U	5 U
Cresol-parachloro-meta			5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene			5 U	5 U	5 UJ	5 U	5 U
Dibenzofuran			5 U	5 U	5 U	5 U	5 U
Dichlorobenzidine-3,3	60		5 U	5 UJ	5 UJ	5 R	5 UJ
Dichlorophenol-2,4	20		5 U	5 U	5 U	5 U	5 U
Dimethylphenol-2,4	100		5 U	1.2 J	5 U	5 U	5 U

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(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-16S	MA-MW-16S	MA-MW-17M	MA-MW-17M	MA-MW-17S
Sample ID	GWQC	MCL	MA-MW-16S-R1	MA-MW-16S-R2	MA-MW-17M-R1	MA-MW-17M-R2	MA-MW-17S-R1
Sample Date			06/27/2002	09/25/2002	06/14/2002	09/18/2002	06/14/2002
Sample Interval			6.5 - 16.5 ft	6.5 - 16.5 ft	41.82 - 51.82 ft	41.82 - 51.82 ft	8 - 18 ft
CLP Sample ID			B0L33	B0QD7	B0L34	B0QE0	B0L35
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 U	20 U	20 U
Dinitrotoluene-2,4	10		5 U	5 U	5 U	5 U	5 U
Dinitrotoluene-2,6			5 U	5 U	5 U	5 U	5 U
Ether, bis(2-chloroethyl)	10		1.9 J	2.6 J	5 U	5 U	5 U
Ether, bis-chloroisopropyl			5 U	5 U	5 UJ	5 UJ	5 UJ
Fluoranthene	300		5 U	5 U	5 U	5 U	5 U
Fluorene	300		5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	10	1	5 U	5 U	5 UJ	5 UJ	5 UJ
Hexachlorobutadiene	1		5 U	5 U	5 UJ	5 U	5 UJ
Hexachlorocyclopentadiene	50	50	5 U	5 U	5 UJ	5 U	5 UJ
Hexachloroethane	10		5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene			5 U	5 U	5 UJ	5 U	5 U
Isophorone	100		5 U	5 U	5 U	5 U	5 U
Methane, bis(2-chloroethoxy)			5 U	5 U	5 U	5 U	5 U
Methylnaphthalene-2			1.2 J	1.9 J	5 U	5 U	5 U
Naphthalene			190	170	5 U	5 U	5 U
Nitroaniline-2			20 U	20 U	20 U	20 U	20 U
Nitroaniline-3			20 U	20 U	20 U	20 U	20 U
Nitroaniline-4			20 U	20 U	20 UJ	20 U	20 UJ
Nitrobenzene	10		5 U	5 U	5 U	5 U	5 U
Nitrophenol-2			5 U	5 U	5 U	5 U	5 U
Nitrophenol-4			20 U	20 U	20 U	20 U	20 U
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 U	5 U	5 U
Nitrosodiphenylamine-n	20		1.7 J	4.9 J	5 U	5 U	5 U
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 U	5 U	5 U
Phenanthrene			5 U	5 U	5 UJ	5 UJ	5 U
Phenol	4000		5 U	5 U	5 U	5 U	5 U
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	5 U	5 U	5 U	5 U
Phthalate, di-n-butyl	900		5 U	1.2 J	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-16S	MA-MW-16S	MA-MW-17M	MA-MW-17M	MA-MW-17S
Sample ID	GWQC	MCL	MA-MW-16S-R1	MA-MW-16S-R2	MA-MW-17M-R1	MA-MW-17M-R2	MA-MW-17S-R1
Sample Date			06/27/2002	09/25/2002	06/14/2002	09/18/2002	06/14/2002
Sample Interval			6.5 - 16.5 ft	6.5 - 16.5 ft	41.82 - 51.82 ft	41.82 - 51.82 ft	8 - 18 ft
CLP Sample ID			B0L33	B0QD7	B0L34	B0QE0	B0L35
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 U	5 U	5 U
Phthalate, diethyl	5000		2.5 J	5 U	5 U	5 U	5 U
Phthalate, dimethyl			5 U	5 U	5 U	5 U	5 U
Pyrene	200		5 U	5 U	5 U	5 U	5 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 U	5 U	5 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 U	20 U	20 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-17S	MA-MW-18D	MA-MW-18D	MA-MW-18M	MA-MW-18M
Sample ID	GWQC	MCL	MA-MW-17S-R2	MA-MW-18D-R1	MA-MW-18D-R2	MA-MW-18M-R1	MA-MW-18M-R2
Sample Date			09/18/2002	06/17/2002	09/18/2002	06/17/2002	09/18/2002
Sample Interval			8 - 18 ft	140 - 152 ft	140 - 152 ft	31.77 - 41.77 ft	31.77 - 41.77 ft
CLP Sample ID			BQD9	BOL30	BON52	BOL31	BON54
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	5 U	5 U	5 U
Acenaphthylene			5 U	5 U	5 U	5 U	5 U
Acetophenone			5 U	5 U	5 U	5 U	5 U
Anthracene	2000		5 U	5 UJ	5 U	5 UJ	5 U
Atrazine	3	3	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Benzaldehyde			5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene			5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene		0.2	5 U	5 UJ	5 U	5 R	5 U
Benzo(b)fluoranthene			5 U	5 UJ	5 U	5 R	5 U
Benzo(g,h,i)perylene			5 U	5 UJ	5 U	5 R	5 U
Benzo(k)fluoranthene			5 U	5 UJ	5 U	5 R	5 U
Biphenyl			5 U	5 U	5 U	5 U	5 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 U	5 U	5 U
Butylbenzyl phthalate	100		5 U	5 U	5 U	5 U	5 U
Caprolactam			5 UJ	5 U	5 UJ	5 U	5 UJ
Chloroaniline-4			5 U	5 U	5 U	5 U	5 U
Chloronaphthalene-2			5 U	5 U	5 U	5 U	5 U
Chlorophenol-2	40		5 U	5 U	5 UJ	5 U	5 U
Chlorophenyl-4 phenyl ether			5 U	5 U	5 U	5 U	5 U
Chrysene			5 U	5 U	5 U	5 U	5 U
Cresol-4,6-dinitro-ortho			20 UJ	20 U	20 U	20 U	20 UJ
Cresol-o			5 U	5 U	5 U	5 U	5 U
Cresol-p			5 U	5 U	5 U	5 U	5 U
Cresol-parachloro-meta			5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene			5 U	5 UJ	5 U	5 R	5 U
Dibenzofuran			5 U	5 U	5 U	5 U	5 U
Dichlorobenzidine-3,3	60		5 R	5 UJ	5 R	5 UJ	5 R
Dichlorophenol-2,4	20		5 U	5 U	5 U	5 U	5 U
Dimethylphenol-2,4	100		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-17S	MA-MW-18D	MA-MW-18D	MA-MW-18M	MA-MW-18M
Sample ID	GWQC	MCL	MA-MW-17S-R2	MA-MW-18D-R1	MA-MW-18D-R2	MA-MW-18M-R1	MA-MW-18M-R2
Sample Date			09/18/2002	06/17/2002	09/18/2002	06/17/2002	09/18/2002
Sample Interval			8 - 18 ft	140 - 152 ft	140 - 152 ft	31.77 - 41.77 ft	31.77 - 41.77 ft
CLP Sample ID			B0QD9	B0L30	B0N52	B0L31	B0N54
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 U	20 U	20 U
Dinitrotoluene-2,4	10		5 U	5 U	5 U	5 U	5 U
Dinitrotoluene-2,6			5 U	5 U	5 U	5 U	5 U
Ether, bis(2-chloroethyl)	10		5 U	5 U	5 U	5 U	5 U
Ether, bis-chloroisopropyl			5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Fluoranthene	300		5 U	5 U	5 U	5 U	5 U
Fluorene	300		5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	10	1	5 U	5 UJ	5 U	5 UJ	5 U
Hexachlorobutadiene	1		5 U	5 UJ	5 U	5 UJ	5 U
Hexachlorocyclopentadiene	50	50	5 U	5 UJ	5 U	5 UJ	5 U
Hexachloroethane	10		5 U	5 UJ	5 U	5 UJ	5 U
Indeno(1,2,3-cd)pyrene			5 U	5 UJ	5 U	5 R	5 U
Isophorone	100		5 U	5 UJ	5 U	5 UJ	5 U
Methane, bis(2-chloroethoxy)			5 U	5 U	5 U	5 U	5 U
Methylnaphthalene-2			5 U	5 U	5 U	5 U	5 U
Naphthalene			5 U	5 U	5 U	5 U	5 U
Nitroaniline-2			20 U	20 U	20 U	20 U	20 U
Nitroaniline-3			20 U	20 U	20 U	20 U	20 U
Nitroaniline-4			20 U	20 UJ	20 U	20 UJ	20 U
Nitrobenzene	10		5 U	5 U	5 U	5 U	5 U
Nitrophenol-2			5 U	5 U	5 U	5 U	5 U
Nitrophenol-4			20 U	20 U	20 U	20 U	20 U
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 U	5 U	5 U
Nitrosodiphenylamine-n	20		5 U	5 U	5 U	5 U	5 U
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 U	5 U	5 U
Phenanthrene			5 U	5 UJ	5 U	5 UJ	5 U
Phenol	4000		5 U	5 U	5 U	5 U	5 U
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	5 U	5 U	5 U	1.6 J
Phthalate, di-n-butyl	900		5 U	5 UJ	5 U	5 UJ	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-17S	MA-MW-18D	MA-MW-18D	MA-MW-18M	MA-MW-18M
Sample ID	GWQC	MCL	MA-MW-17S-R2	MA-MW-18D-R1	MA-MW-18D-R2	MA-MW-18M-R1	MA-MW-18M-R2
Sample Date			09/18/2002	06/17/2002	09/18/2002	06/17/2002	09/18/2002
Sample Interval			8 - 18 ft	140 - 152 ft	140 - 152 ft	31.77 - 41.77 ft	31.77 - 41.77 ft
CLP Sample ID			B0QD9	B0L30	B0N52	B0L31	B0N54
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 U	5 U	5 U
Phthalate, diethyl	5000		5 U	5 U	5 U	5 U	5 U
Phthalate, dimethyl			5 U	5 U	5 U	5 U	5 U
Pyrene	200		5 U	5 U	5 U	5 U	5 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 U	5 U	5 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 U	20 U	20 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-18S	MA-MW-18S	MA-MW-19M	MA-MW-19M	MA-MW-19R
Sample ID	GWQC	MCL	MA-MW-18S-R1	MA-MW-18S-R2	MA-MW-19M-R1	MA-MW-19M-R2	MA-MW-19R-R1
Sample Date			06/17/2002	09/18/2002	06/17/2002	09/19/2002	06/17/2002
Sample Interval			7.8 - 17.8 ft	7.8 - 17.8 ft	42 - 52 ft	42 - 52 ft	103 - 113 ft
CLP Sample ID			B0L32	B0N53	B0L28	B0N55	B0L27
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	5 U	5 U	5 U
Acenaphthylene			5 U	5 U	5 U	5 U	5 U
Acetophenone			5 U	5 U	5 U	5 U	5 U
Anthracene	2000		5 U	5 U	5 UJ	5 U	5 U
Atrazine	3	3	5 U	5 UJ	5 UJ	5 UJ	5 U
Benzaldehyde			5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene			5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene		0.2	5 U	5 U	5 UJ	5 U	5 UJ
Benzo(b)fluoranthene			5 U	5 U	5 UJ	5 U	5 UJ
Benzo(g,h,i)perylene			5 U	5 U	5 UJ	5 U	5 UJ
Benzo(k)fluoranthene			5 U	5 U	5 UJ	5 U	5 UJ
Biphenyl			5 U	5 U	5 U	5 U	5 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 U	5 U	5 U
Butylbenzyl phthalate	100		5 U	5 U	5 U	5 U	5 U
Caprolactam			5 U	5 UJ	5 U	5 UJ	5 U
Chloroaniline-4			5 U	5 U	5 U	5 U	5 U
Chloronaphthalene-2			5 U	5 U	5 U	5 U	5 U
Chlorophenol-2	40		5 U	5 U	5 U	5 U	5 U
Chlorophenyl-4 phenyl ether			5 U	5 U	5 U	5 U	5 U
Chrysene			5 U	5 U	5 U	5 U	5 U
Cresol-4,6-dinitro-ortho			20 U	20 UJ	20 U	20 U	20 U
Cresol-o			5 U	5 U	5 U	5 U	5 U
Cresol-p			5 U	5 U	5 U	5 U	5 U
Cresol-parachloro-meta			5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene			5 U	5 U	5 UJ	5 U	5 UJ
Dibenzofuran			5 U	5 U	5 U	5 U	5 U
Dichlorobenzidine-3,3	60		5 UJ	5 R	5 UJ	5 R	5 UJ
Dichlorophenol-2,4	20		5 U	5 U	5 U	5 U	5 U
Dimethylphenol-2,4	100		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-18S	MA-MW-18S	MA-MW-19M	MA-MW-19M	MA-MW-19R
Sample ID	GWQC	MCL	MA-MW-18S-R1	MA-MW-18S-R2	MA-MW-19M-R1	MA-MW-19M-R2	MA-MW-19R-R1
Sample Date			06/17/2002	09/18/2002	06/17/2002	09/19/2002	06/17/2002
Sample Interval			7.8 - 17.8 ft	7.8 - 17.8 ft	42 - 52 ft	42 - 52 ft	103 - 113 ft
CLP Sample ID			B0L32	B0N53	B0L28	B0N55	B0L27
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 U	20 U	20 U
Dinitrotoluene-2,4	10		5 U	5 U	5 U	5 U	5 U
Dinitrotoluene-2,6			5 U	5 U	5 U	5 U	5 U
Ether, bis(2-chloroethyl)	10		5 U	5 U	5 U	5 U	5 U
Ether, bis-chloroisopropyl			5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Fluoranthene	300		5 U	5 U	5 U	5 U	5 U
Fluorene	300		5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	10	1	5 UJ	5 U	5 UJ	5 U	5 UJ
Hexachlorobutadiene	1		5 UJ	5 U	5 UJ	5 U	5 UJ
Hexachlorocyclopentadiene	50	50	5 UJ	5 U	5 UJ	5 U	5 UJ
Hexachloroethane	10		5 U	5 U	5 U	5 U	5 UJ
Indeno(1,2,3-cd)pyrene			5 U	5 U	5 UJ	5 U	5 UJ
Isophorone	100		5 U	5 U	5 U	5 U	5 UJ
Methane, bis(2-chloroethoxy)			5 U	5 U	5 U	5 U	5 U
Methylnaphthalene-2			5 U	5 U	5 U	5 U	5 U
Naphthalene			5 U	5 U	5 U	5 U	5 U
Nitroaniline-2			20 U	20 U	20 U	20 U	20 U
Nitroaniline-3			20 U	20 U	20 U	20 U	20 U
Nitroaniline-4			20 UJ	20 U	20 UJ	20 U	20 UJ
Nitrobenzene	10		5 U	5 U	5 U	5 U	5 U
Nitrophenol-2			5 U	5 U	5 U	5 U	5 U
Nitrophenol-4			20 U	20 U	20 U	20 U	20 U
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 U	5 U	5 U
Nitrosodiphenylamine-n	20		5 U	5 U	5 U	5 U	5 U
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 U	5 U	5 U
Phenanthrene			5 U	5 U	5 UJ	5 U	5 U
Phenol	4000		5 U	5 U	5 U	5 U	5 U
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	5 U	1.2 J	5 U	5 U
Phthalate, di-n-butyl	900		5 U	5 U	5 U	5 U	5 UJ

J - Reported value estimated in quantity

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

302860

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-18S	MA-MW-18S	MA-MW-19M	MA-MW-19M	MA-MW-19R
Sample ID	GWQC	MCL	MA-MW-18S-R1	MA-MW-18S-R2	MA-MW-19M-R1	MA-MW-19M-R2	MA-MW-19R-R1
Sample Date			06/17/2002	09/18/2002	06/17/2002	09/19/2002	06/17/2002
Sample Interval			7.8 - 17.8 ft	7.8 - 17.8 ft	42 - 52 ft	42 - 52 ft	103 - 113 ft
CLP Sample ID			B0L32	B0N53	B0L28	B0N55	B0L27
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 U	5 U	5 U
Phthalate, diethyl	5000		5 U	5 U	5 U	5 U	5 U
Phthalate, dimethyl			5 U	5 U	5 U	5 U	5 U
Pyrene	200		5 U	5 U	5 U	5 U	5 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 U	5 U	5 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 U	20 U	20 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-19R	MA-MW-19S	MA-MW-19S	MA-MW-01M	MA-MW-01M
Sample ID	GWQC	MCL	MA-MW-19R-R2	MA-MW-19S-R1	MA-MW-19S-R2	MA-MW-1M-R1	MA-MW-1M-R2
Sample Date			09/19/2002	06/17/2002	09/19/2002	06/20/2002	09/23/2002
Sample Interval			103 - 113 ft	5.05 - 15.05 ft	5.05 - 15.05 ft	50 - 60 ft	50 - 60 ft
CLP Sample ID			B0N56	B0L29	B0N60	B0KZ2	B0N59
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	5 U	5 UJ	5 U
Acenaphthylene			5 U	5 U	5 U	5 UJ	5 U
Acetophenone			5 U	5 U	5 U	5 UJ	5 U
Anthracene	2000		5 U	5 U	5 U	5 UJ	5 U
Atrazine	3	3	5 UJ	5 U	5 UJ	5 UJ	5 UJ
Benzaldehyde			5 U	5 U	5 U	5 UJ	5 U
Benzo(a)anthracene			5 U	5 U	5 U	5 UJ	5 U
Benzo(a)pyrene		0.2	5 U	5 U	5 U	5 UJ	5 U
Benzo(b)fluoranthene			5 U	5 U	5 U	5 UJ	5 U
Benzo(g,h,i)perylene			5 U	5 U	5 U	5 UJ	5 U
Benzo(k)fluoranthene			5 U	5 U	5 U	5 UJ	5 U
Biphenyl			5 U	5 U	5 U	5 UJ	5 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 U	5 UJ	5 U
Butylbenzyl phthalate	100		5 U	5 U	5 U	5 UJ	5 U
Caprolactam			5 UJ	5 U	5 UJ	5 UJ	5 U
Chloroaniline-4			5 U	5 U	5 U	5 UJ	5 U
Chloronaphthalene-2			5 U	5 U	5 U	5 UJ	5 U
Chlorophenol-2	40		5 U	5 U	5 U	5 UJ	5 U
Chlorophenyl-4 phenyl ether			5 U	5 U	5 U	5 UJ	5 U
Chrysene			5 U	5 U	5 U	5 UJ	5 U
Cresol-4,6-dinitro-ortho			20 U	20 U	20 U	20 UJ	20 UJ
Cresol-o			5 U	5 U	5 U	5 UJ	5 U
Cresol-p			5 U	5 U	5 U	5 UJ	5 U
Cresol-parachloro-meta			5 U	5 U	5 U	5 UJ	5 U
Dibenzo(a,h)anthracene			5 U	5 U	5 U	5 UJ	5 U
Dibenzofuran			5 U	5 U	5 U	5 UJ	5 U
Dichlorobenzidine-3,3	60		5 R	5 UJ	5 R	5 UJ	5 UJ
Dichlorophenol-2,4	20		5 U	5 U	5 U	5 UJ	5 U
Dimethylphenol-2,4	100		5 U	5 U	5 U	5 UJ	5 U

J - Reported value estimated in quantity

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

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GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-19R	MA-MW-19S	MA-MW-19S	MA-MW-01M	MA-MW-01M
Sample ID	GWQC	MCL	MA-MW-19R-R2	MA-MW-19S-R1	MA-MW-19S-R2	MA-MW-01M-R1	MA-MW-01M-R2
Sample Date			09/19/2002	06/17/2002	09/19/2002	06/20/2002	09/23/2002
Sample Interval			103 - 113 ft	5.05 - 15.05 ft	5.05 - 15.05 ft	50 - 60 ft	50 - 60 ft
CLP Sample ID			B0N56	B0L29	B0N60	B0KZ2	B0N59
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 U	20 UJ	20 U
Dinitrotoluene-2,4	10		5 U	5 U	5 U	5 UJ	5 U
Dinitrotoluene-2,6			5 U	5 U	5 U	5 UJ	5 U
Ether, bis(2-chloroethyl)	10		5 U	5 U	5 U	5 UJ	5 U
Ether, bis-chloroisopropyl			5 UJ	5 UJ	5 UJ	5 UJ	5 U
Fluoranthene	300		5 U	5 U	5 U	5 UJ	5 U
Fluorene	300		5 U	5 U	5 U	5 UJ	5 U
Hexachlorobenzene	10	1	5 U	5 UJ	5 U	5 UJ	5 U
Hexachlorobutadiene	1		5 U	5 UJ	5 U	5 UJ	5 U
Hexachlorocyclopentadiene	50	50	5 U	5 UJ	5 U	5 UJ	5 U
Hexachloroethane	10		5 U	5 UJ	5 U	5 UJ	5 U
Indeno(1,2,3-cd)pyrene			5 U	5 U	5 U	5 UJ	5 U
Isophorone	100		5 U	5 UJ	5 U	5 UJ	5 U
Methane, bis(2-chloroethoxy)			5 U	5 U	5 U	5 UJ	5 U
Methylnaphthalene-2			5 U	5 U	5 U	5 UJ	5 U
Naphthalene			5 U	5 U	5 U	5 UJ	5 U
Nitroaniline-2			20 U	20 U	20 U	20 UJ	20 U
Nitroaniline-3			20 U	20 U	20 U	20 UJ	20 U
Nitroaniline-4			20 U	20 UJ	20 U	20 UJ	20 U
Nitrobenzene	10		5 U	5 U	5 U	5 UJ	5 U
Nitrophenol-2			5 U	5 U	5 U	5 UJ	5 U
Nitrophenol-4			20 U	20 U	20 U	20 UJ	20 U
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 U	5 UJ	5 U
Nitrosodiphenylamine-n	20		5 U	5 U	5 U	5 UJ	5 U
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 U	5 UJ	5 U
Phenanthrene			5 U	5 U	5 U	5 UJ	5 U
Phenol	4000		5 U	5 U	5 U	5 UJ	5 U
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	5 U	1.4 J	5 UJ	5 U
Phthalate, di-n-butyl	900		5 U	5 UJ	5 U	5 UJ	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-19R	MA-MW-19S	MA-MW-19S	MA-MW-01M	MA-MW-01M
Sample ID	GWQC	MCL	MA-MW-19R-R2	MA-MW-19S-R1	MA-MW-19S-R2	MA-MW-1M-R1	MA-MW-1M-R2
Sample Date			09/19/2002	06/17/2002	09/19/2002	06/20/2002	09/23/2002
Sample Interval			103 - 113 ft	5.05 - 15.05 ft	5.05 - 15.05 ft	50 - 60 ft	50 - 60 ft
CLP Sample ID			B0N56	B0L29	B0N60	B0KZ2	B0N59
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 U	5 UJ	5 U
Phthalate, diethyl	5000		5 U	5 U	5 U	5 UJ	5 U
Phthalate, dimethyl			5 U	5 U	5 U	5 UJ	5 U
Pyrene	200		5 U	5 U	5 U	5 UJ	5 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 U	5 UJ	5 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 U	20 UJ	20 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 U	5 UJ	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-01S	MA-MW-01S	MA-MW-20D	MA-MW-20D	MA-MW-20M
Sample ID	GWQC	MCL	MA-MW-1S-R1	MA-MW-1S-R2	MA-MW-20D-R1	MA-MW-20D-R2	MA-MW-20M-R1
Sample Date			06/20/2002	09/23/2002	06/13/2002	09/20/2002	06/13/2002
Sample Interval			4 - 14 ft	4 - 14 ft	123 - 133 ft	123 - 133 ft	42 - 52 ft
CLP Sample ID			B0KZ4	B0N58	B0L25	B0N63	B0L24
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 UJ	5 U	5 U	5 U	5 U
Acenaphthylene			5 UJ	5 U	5 U	5 U	5 U
Acetophenone			5 UJ	5 U	5 U	5 U	5 U
Anthracene	2000		5 UJ	5 U	5 U	5 U	5 U
Atrazine	3	3	5 UJ	5 UJ	5 U	5 UJ	5 U
Benzaldehyde			5 UJ	5 U	5 U	5 U	5 U
Benzo(a)anthracene			5 UJ	5 U	5 U	5 U	5 U
Benzo(a)pyrene		0.2	5 UJ	5 U	5 U	5 U	5 U
Benzo(b)fluoranthene			5 UJ	5 U	5 U	5 U	5 U
Benzo(g,h,i)perylene			5 UJ	5 U	5 U	5 U	5 U
Benzo(k)fluoranthene			5 UJ	5 U	5 U	5 U	5 U
Biphenyl			5 UJ	5 U	5 U	5 U	5 U
Bromophenyl-4 Phenyl Ether			5 UJ	5 U	5 U	5 U	5 U
Butylbenzyl phthalate	100		5 UJ	5 U	5 U	5 U	5 U
Caprolactam			5 UJ	5 U	5 U	5 UJ	5 U
Chloroaniline-4			5 UJ	5 U	5 U	5 U	5 U
Chloronaphthalene-2			5 UJ	5 U	5 U	5 U	5 U
Chlorophenol-2	40		5 UJ	5 U	5 U	5 UJ	5 U
Chlorophenyl-4 phenyl ether			5 UJ	5 U	5 U	5 U	5 U
Chrysene			5 UJ	5 U	5 U	5 U	5 U
Cresol-4,6-dinitro-ortho			20 UJ	20 UJ	20 U	20 U	20 U
Cresol-o			5 UJ	5 U	5 U	5 U	5 U
Cresol-p			5 UJ	2.2 J	5 U	5 U	5 U
Cresol-parachloro-meta			5 UJ	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene			5 UJ	5 U	5 U	5 U	5 U
Dibenzofuran			5 UJ	5 U	5 U	5 U	5 U
Dichlorobenzidine-3,3	60		5 UJ	5 UJ	5 UJ	5 R	5 UJ
Dichlorophenol-2,4	20		5 UJ	5 U	5 U	5 U	5 U
Dimethylphenol-2,4	100		5 UJ	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-01S	MA-MW-01S	MA-MW-20D	MA-MW-20D	MA-MW-20M
Sample ID	GWQC	MCL	MA-MW-1S-R1	MA-MW-1S-R2	MA-MW-20D-R1	MA-MW-20D-R2	MA-MW-20M-R1
Sample Date			06/20/2002	09/23/2002	06/13/2002	09/20/2002	06/13/2002
Sample Interval			4 - 14 ft	4 - 14 ft	123 - 133 ft	123 - 133 ft	42 - 52 ft
CLP Sample ID			B0KZ4	B0N58	B0L25	B0N63	B0L24
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 UJ	20 U	20 U	20 U	20 U
Dinitrotoluene-2,4	10		5 UJ	5 U	5 U	5 U	5 U
Dinitrotoluene-2,6			5 UJ	5 U	5 U	5 U	5 U
Ether, bis(2-chloroethyl)	10		5 UJ	5 U	5 U	5 U	5 U
Ether, bis-chloroisopropyl			5 UJ	5 U	5 UJ	5 UJ	5 UJ
Fluoranthene	300		5 UJ	5 U	5 U	5 U	5 U
Fluorene	300		5 UJ	5 U	5 U	5 U	5 U
Hexachlorobenzene	10	1	5 UJ	5 U	5 UJ	5 U	5 UJ
Hexachlorobutadiene	1		5 UJ	5 U	5 UJ	5 U	5 UJ
Hexachlorocyclopentadiene	50	50	5 UJ	5 U	5 UJ	5 U	5 UJ
Hexachloroethane	10		5 UJ	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene			5 UJ	5 U	5 U	5 U	5 U
Isophorone	100		5 UJ	5 U	5 U	5 U	5 U
Methane, bis(2-chloroethoxy)			5 UJ	5 U	5 U	5 U	5 U
Methylnaphthalene-2			5 UJ	5 U	5 U	5 U	5 U
Naphthalene			5 UJ	1.6 J	5 U	5 U	5 U
Nitroaniline-2			20 UJ	20 U	20 U	20 U	20 U
Nitroaniline-3			20 UJ	20 U	20 U	20 U	20 U
Nitroaniline-4			20 UJ	20 U	20 UJ	20 U	20 UJ
Nitrobenzene	10		5 UJ	5 U	5 U	5 U	5 U
Nitrophenol-2			5 UJ	5 U	5 U	5 U	5 U
Nitrophenol-4			20 UJ	20 U	20 U	20 U	20 U
Nitroso-di-n-propyl-amine-N	20		5 UJ	5 U	5 U	5 U	5 U
Nitrosodiphenylamine-n	20		14 J	38 (A)	5 U	5 UJ	5 U
PCP (Pentachlorophenol)	1	1	5 UJ	5 U	5 U	5 U	5 U
Phenanthrene			5 UJ	5 U	5 U	5 U	5 U
Phenol	4000		5 UJ	5 U	5 U	5 U	5 U
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 UJ	5 U	5 U	5 U	5 U
Phthalate, di-n-butyl	900		5 UJ	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-01S	MA-MW-01S	MA-MW-20D	MA-MW-20D	MA-MW-20M
Sample ID	GWQC	MCL	MA-MW-1S-R1	MA-MW-1S-R2	MA-MW-20D-R1	MA-MW-20D-R2	MA-MW-20M-R1
Sample Date			06/20/2002	09/23/2002	06/13/2002	09/20/2002	06/13/2002
Sample Interval			4 - 14 ft	4 - 14 ft	123 - 133 ft	123 - 133 ft	42 - 52 ft
CLP Sample ID			B0KZ4	B0N58	B0L25	B0N63	B0L24
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 UJ	5 U	5 U	5 U	5 U
Phthalate, diethyl	5000		5 UJ	5 U	5 U	5 U	5 U
Phthalate, dimethyl			5 UJ	5 U	5 U	5 U	5 U
Pyrene	200		5 UJ	5 U	5 U	5 U	5 U
Tetrachlorobenzene-1,2,4,5			5 UJ	5 U	5 U	5 U	5 U
Trichlorophenol-2,4,5	700		20 UJ	20 U	20 U	20 U	20 U
Trichlorophenol-2,4,6	20		5 UJ	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-20M	MA-MW-20R	MA-MW-20R	MA-MW-20S	MA-MW-20S
Sample ID	GWQC	MCL	MA-MW-20M-R2	MA-MW-20R-R1	MA-MW-20R-R2	MA-MW-20S-R1	MA-MW-20S-R2
Sample Date			09/20/2002	06/13/2002	09/20/2002	06/13/2002	09/20/2002
Sample Interval			42 - 52 ft	113 - 123 ft	113 - 123 ft	7.9 - 17.9 ft	7.9 - 17.9 ft
CLP Sample ID			B0N61	B0L26	B0N62	B0L22	B0N66
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	5 U	5 U	5 U
Acenaphthylene			5 U	5 U	5 U	5 U	5 U
Acetophenone			5 U	5 U	5 U	5 U	5 U
Anthracene	2000		5 U	5 U	5 U	5 U	5 U
Atrazine	3	3	5 UJ	5 U	5 UJ	5 U	5 UJ
Benzaldehyde			5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene			5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene		0.2	5 U	5 U	5 U	5 UJ	5 U
Benzo(b)fluoranthene			5 U	5 U	5 U	5 UJ	5 U
Benzo(g,h,i)perylene			5 U	5 U	5 U	5 UJ	5 U
Benzo(k)fluoranthene			5 U	5 U	5 U	5 UJ	5 U
Biphenyl			5 U	5 U	5 U	5 U	5 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 U	5 U	5 U
Butylbenzyl phthalate	100		5 U	5 U	5 U	5 U	5 U
Caprolactam			5 UJ	5 U	5 UJ	5 U	5 UJ
Chloroaniline-4			5 U	5 U	5 U	5 U	5 U
Chloronaphthalene-2			5 U	5 U	5 U	5 U	5 U
Chlorophenol-2	40		5 UJ	5 U	5 UJ	5 U	5 UJ
Chlorophenyl-4 phenyl ether			5 U	5 U	5 U	5 U	5 U
Chrysene			5 U	5 U	5 U	5 U	5 U
Cresol-4,6-dinitro-ortho			20 U	20 U	20 U	20 U	20 UJ
Cresol-o			5 U	5 U	5 U	5 U	5 U
Cresol-p			5 U	5 U	5 U	5 U	5 U
Cresol-parachloro-meta			5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene			5 U	5 U	5 U	5 UJ	5 U
Dibenzofuran			5 U	5 U	5 U	5 U	5 U
Dichlorobenzidine-3,3	60		5 R	5 UJ	5 R	5 UJ	5 R
Dichlorophenol-2,4	20		5 U	5 U	5 U	5 U	5 U
Dimethylphenol-2,4	100		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-20M	MA-MW-20R	MA-MW-20R	MA-MW-20S	MA-MW-20S
Sample ID	GWQC	MCL	MA-MW-20M-R2	MA-MW-20R-R1	MA-MW-20R-R2	MA-MW-20S-R1	MA-MW-20S-R2
Sample Date			09/20/2002	06/13/2002	09/20/2002	06/13/2002	09/20/2002
Sample Interval			42 - 52 ft	113 - 123 ft	113 - 123 ft	7.9 - 17.9 ft	7.9 - 17.9 ft
CLP Sample ID			B0N61	B0L26	B0N62	B0L22	B0N66
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 U	20 U	20 U
Dinitrotoluene-2,4	10		5 U	5 U	5 U	5 U	5 U
Dinitrotoluene-2,6			5 U	5 U	5 U	5 U	5 U
Ether, bis(2-chloroethyl)	10		1.2 J	5 U	5 U	5 U	5 U
Ether, bis-chloroisopropyl			5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Fluoranthene	300		5 U	5 U	5 U	5 U	5 U
Fluorene	300		5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	10	1	5 U	5 UJ	5 U	5 UJ	5 U
Hexachlorobutadiene	1		5 U	5 UJ	5 U	5 UJ	5 U
Hexachlorocyclopentadiene	50	50	5 U	5 UJ	5 U	5 UJ	5 U
Hexachloroethane	10		5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene			5 U	5 U	5 U	5 UJ	5 U
Isophorone	100		5 U	5 U	5 U	5 U	5 U
Methane, bis(2-chloroethoxy)			5 U	5 U	5 U	5 U	5 U
Methylnaphthalene-2			5 U	5 U	5 U	5 U	5 U
Naphthalene			5 U	5 U	5 U	5 U	5 U
Nitroaniline-2			20 U	20 U	20 U	20 U	20 U
Nitroaniline-3			20 U	20 U	20 U	20 U	20 U
Nitroaniline-4			20 U	20 UJ	20 U	20 UJ	20 U
Nitrobenzene	10		5 U	5 U	5 U	5 U	5 U
Nitrophenol-2			5 U	5 U	5 U	5 U	5 U
Nitrophenol-4			20 U	20 U	20 U	20 U	20 U
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 U	5 U	5 U
Nitrosodiphenylamine-n	20		5 UJ	5 U	5 UJ	5 U	5 UJ
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 U	5 U	5 U
Phenanthrene			5 U	5 U	5 U	5 U	5 U
Phenol	4000		5 U	5 U	5 U	5 U	5 U
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	5 U	5 U	5 U	5 U
Phthalate, di-n-butyl	900		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-20M	MA-MW-20R	MA-MW-20R	MA-MW-20S	MA-MW-20S
Sample ID	GWQC	MCL	MA-MW-20M-R2	MA-MW-20R-R1	MA-MW-20R-R2	MA-MW-20S-R1	MA-MW-20S-R2
Sample Date			09/20/2002	06/13/2002	09/20/2002	06/13/2002	09/20/2002
Sample Interval			42 - 52 ft	113 - 123 ft	113 - 123 ft	7.9 - 17.9 ft	7.9 - 17.9 ft
CLP Sample ID			B0N61	B0L26	B0N62	B0L22	B0N66
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 U	5 U	5 U
Phthalate, diethyl	5000		5 U	5 U	5 U	5 U	5 U
Phthalate, dimethyl			5 U	5 U	5 U	5 U	5 U
Pyrene	200		5 U	5 U	5 U	5 U	5 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 U	5 U	5 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 U	20 U	20 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-21S	MA-MW-21S	MA-MW-22S	MA-MW-22S	MA-MW-04S
Sample ID	GWQC	MCL	MA-MW-21S-R1	MA-MW-21S-R2	MA-MW-22S-R1	MA-MW-22S-R2	MA-MW-4S-R1
Sample Date			06/12/2002	09/17/2002	06/12/2002	09/17/2002	06/12/2002
Sample Interval			10 - 21 ft	10 - 21 ft	10 - 21 ft	10 - 21 ft	4 - 14 ft
CLP Sample ID			B0L21	B0N68	B0L23	B0N67	B0KZ9
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	5 U	5 U	5 U
Acenaphthylene			5 U	5 U	5 U	5 U	5 U
Acetophenone			5 U	5 U	5 U	5 U	5 U
Anthracene	2000		5 U	5 U	5 U	5 U	5 U
Atrazine	3	3	5 U	5 UJ	5 U	5 UJ	5 U
Benzaldehyde			5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene			5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene		0.2	5 U	5 U	5 UJ	5 U	5 UJ
Benzo(b)fluoranthene			5 U	5 U	5 UJ	5 U	5 UJ
Benzo(g,h,i)perylene			5 U	5 U	5 UJ	5 U	5 UJ
Benzo(k)fluoranthene			5 U	5 U	5 UJ	5 U	5 UJ
Biphenyl			5 U	5 U	5 U	5 U	5 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 U	5 U	5 U
Butylbenzyl phthalate	100		5 U	5 U	5 U	5 U	5 U
Caprolactam			5 U	5 UJ	5 U	3.2 J	5 U
Chloroaniline-4			5 U	5 U	5 R	5 R	5 U
Chloronaphthalene-2			5 U	5 U	5 U	5 U	5 U
Chlorophenol-2	40		5 U	5 U	5 U	5 U	5 U
Chlorophenyl-4 phenyl ether			5 U	5 U	5 U	5 U	5 U
Chrysene			5 U	5 U	5 U	5 U	5 U
Cresol-4,6-dinitro-ortho			20 U	20 UJ	20 U	20 UJ	20 U
Cresol-o			5 U	5 U	5 U	5 U	5 U
Cresol-p			5 U	5 U	5 U	5 U	5 U
Cresol-parachloro-meta			5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene			5 U	5 U	5 UJ	5 U	5 UJ
Dibenzofuran			5 U	5 U	5 U	5 U	5 U
Dichlorobenzidine-3,3	60		5 UJ	5 R	5 R	5 R	5 UJ
Dichlorophenol-2,4	20		5 U	5 U	5 U	5 U	5 U
Dimethylphenol-2,4	100		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ

Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-21S	MA-MW-21S	MA-MW-22S	MA-MW-22S	MA-MW-04S
Sample ID	GWQC	MCL	MA-MW-21S-R1	MA-MW-21S-R2	MA-MW-22S-R1	MA-MW-22S-R2	MA-MW-4S-R1
Sample Date			06/12/2002	09/17/2002	06/12/2002	09/17/2002	06/12/2002
Sample Interval			10 - 21 ft	10 - 21 ft	10 - 21 ft	10 - 21 ft	4 - 14 ft
CLP Sample ID			B0L21	B0N68	B0L23	B0N67	B0KZ9
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 U	20 U	20 U
Dinitrotoluene-2,4	10		5 U	5 U	5 U	5 U	5 U
Dinitrotoluene-2,6			5 U	5 U	5 U	5 U	5 U
Ether, bis(2-chloroethyl)	10		5 U	5 U	5 U	5 U	5 U
Ether, bis-chloroisopropyl			5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Fluoranthene	300		5 U	5 U	5 U	5 U	5 U
Fluorene	300		5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	10	1	5 UJ	5 U	5 UJ	5 U	5 UJ
Hexachlorobutadiene	1		5 UJ	5 U	5 UJ	5 U	5 UJ
Hexachlorocyclopentadiene	50	50	5 UJ	5 U	5 R	5 R	5 UJ
Hexachloroethane	10		5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene			5 U	5 U	5 UJ	5 U	5 UJ
Isophorone	100		5 U	5 U	5 U	5 U	5 U
Methane, bis(2-chloroethoxy)			5 U	5 U	5 U	5 U	5 U
Methylnaphthalene-2			5 U	5 U	5 U	5 U	5 U
Naphthalene			5 U	5 U	5 U	5 U	5 U
Nitroaniline-2			20 U	20 U	20 U	20 U	20 U
Nitroaniline-3			20 U	20 U	20 U	20 U	20 U
Nitroaniline-4			20 UJ	20 U	20 UJ	20 U	20 UJ
Nitrobenzene	10		5 U	5 U	5 U	5 U	5 U
Nitrophenol-2			5 U	5 U	5 U	5 U	5 U
Nitrophenol-4			20 U	20 U	20 U	20 U	20 U
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 U	5 U	5 U
Nitrosodiphenylamine-n	20		5 U	5 U	5 U	5 U	5 U
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 U	5 U	5 U
Phenanthrene			5 U	5 U	5 U	5 U	5 U
Phenol	4000		5 U	5 U	5 U	5 U	5 U
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	5 U	5 U	5 U	5 U
Phthalate, di-n-butyl	900		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-21S	MA-MW-21S	MA-MW-22S	MA-MW-22S	MA-MW-04S
Sample ID	GWQC	MCL	MA-MW-21S-R1	MA-MW-21S-R2	MA-MW-22S-R1	MA-MW-22S-R2	MA-MW-4S-R1
Sample Date			06/12/2002	09/17/2002	06/12/2002	09/17/2002	06/12/2002
Sample Interval			10 - 21 ft	10 - 21 ft	10 - 21 ft	10 - 21 ft	4 - 14 ft
CLP Sample ID			B0L21	B0N68	B0L23	B0N67	B0KZ9
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 U	5 U	5 U
Phthalate, diethyl	5000		5 U	5 U	5 U	5 U	5 U
Phthalate, dimethyl			5 U	5 U	5 U	5 U	5 U
Pyrene	200		5 U	5 U	5 U	5 U	5 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 U	5 U	5 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 U	20 U	20 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-04S	MA-MW-05S	MA-MW-05S	MA-MW-05S	MA-MW-08S
Sample ID	GWQC	MCL	MA-MW-4S-R2	MA-MW-5S-R1	MA-MW-5S-R1-D	MA-MW-5S-R2	MA-MW-8S-R1
Sample Date			09/17/2002	06/27/2002	06/27/2002	09/25/2002	06/12/2002
Sample Interval			4 - 14 ft	6 - 16 ft	6 - 16 ft	6 - 16 ft	4 - 14 ft
CLP Sample ID			B0N72	B0KZ7	B0KZ8	B0N64	B0KY7
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	1.8 J	5 U	5 U
Acenaphthylene			5 U	5 U	5 U	5 U	5 U
Acetophenone			5 U	5 U	5 U	5 U	5 U
Anthracene	2000		5 U	5 U	5 U	5 U	5 U
Atrazine	3	3	5 UJ	5 U	5 U	5 UJ	5 U
Benzaldehyde			5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene			5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene		0.2	5 U	5 U	5 U	5 U	5 UJ
Benzo(b)fluoranthene			5 U	5 U	5 U	5 U	5 UJ
Benzo(g,h,i)perylene			5 U	5 U	5 U	5 U	5 UJ
Benzo(k)fluoranthene			5 U	5 U	5 U	5 U	5 UJ
Biphenyl			5 U	5 U	5 U	5 U	5 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 U	5 U	5 U
Butylbenzyl phthalate	100		5 U	5 U	5 U	5 U	5 U
Caprolactam			2.1 J	5 U	5 U	5 U	1.5 J
Chloroaniline-4			5 U	5 U	5 U	5 U	5 U
Chloronaphthalene-2			5 U	5 U	5 U	5 U	5 U
Chlorophenol-2	40		5 U	5 U	5 U	5 U	5 U
Chlorophenyl-4 phenyl ether			5 U	5 U	5 U	5 U	5 U
Chrysene			5 U	5 U	5 U	5 U	5 U
Cresol-4,6-dinitro-ortho			20 UJ	20 U	20 U	20 U	20 U
Cresol-o			5 U	5 U	5 U	5 U	5 U
Cresol-p			5 U	5 U	5 U	5 U	6.3
Cresol-parachloro-meta			5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene			5 U	5 U	5 U	5 U	5 UJ
Dibenzofuran			5 U	5 U	5 U	5 U	5 U
Dichlorobenzidine-3,3	60		5 R	5 U	5 U	5 UJ	5 UJ
Dichlorophenol-2,4	20		5 U	5 U	5 U	5 U	5 U
Dimethylphenol-2,4	100		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-04S	MA-MW-05S	MA-MW-05S	MA-MW-05S	MA-MW-08S
Sample ID	GWQC	MCL	MA-MW-4S-R2	MA-MW-5S-R1	MA-MW-5S-R1-D	MA-MW-5S-R2	MA-MW-8S-R1
Sample Date			09/17/2002	06/27/2002	06/27/2002	09/25/2002	06/12/2002
Sample Interval			4 - 14 ft	6 - 16 ft	6 - 16 ft	6 - 16 ft	4 - 14 ft
CLP Sample ID			B0N72	B0KZ7	B0KZ8	B0N64	B0KY7
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 U	20 U	20 U
Dinitrotoluene-2,4	10		5 U	5 U	5 U	5 U	5 U
Dinitrotoluene-2,6			5 U	5 U	5 U	5 U	5 U
Ether, bis(2-chloroethyl)	10		5 U	5 U	5 U	5 U	5 U
Ether, bis-chloroisopropyl			5 UJ	5 U	5 U	5 U	5 UJ
Fluoranthene	300		5 U	5 U	3.3 J	5 U	5 U
Fluorene	300		5 U	5 U	1.7 J	1.1 J	5 U
Hexachlorobenzene	10	1	5 U	5 U	5 U	5 U	5 UJ
Hexachlorobutadiene	1		5 U	5 U	5 U	5 U	5 UJ
Hexachlorocyclopentadiene	50	50	5 U	5 U	5 U	5 U	5 UJ
Hexachloroethane	10		5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene			5 U	5 U	5 U	5 U	5 UJ
Isophorone	100		5 U	5 U	5 U	5 U	5 U
Methane, bis(2-chloroethoxy)			5 U	5 U	5 U	5 U	5 U
Methylnaphthalene-2			5 U	1.8 J	5 U	4 J	5 U
Naphthalene			5 U	38	7.6	79	5 U
Nitroaniline-2			20 U	20 U	20 U	20 U	20 U
Nitroaniline-3			20 U	20 U	20 U	20 U	20 U
Nitroaniline-4			20 U	20 U	20 U	20 U	20 UJ
Nitrobenzene	10		5 U	5 U	5 U	5 U	5 U
Nitrophenol-2			5 U	5 U	5 U	5 U	5 U
Nitrophenol-4			20 U	20 U	20 U	20 U	20 U
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 U	5 U	5 U
Nitrosodiphenylamine-n	20		5 U	3.5 J	3 J	5.4	5 U
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 U	5 U	5 U
Phenanthrene			5 U	2 J	10	2.2 J	5 U
Phenol	4000		5 U	1.1 J	15	2.4 J	5 U
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	5 U	5 U	5 U	5 U
Phthalate, di-n-butyl	900		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-04S	MA-MW-05S	MA-MW-05S	MA-MW-05S	MA-MW-08S
Sample ID	GWQC	MCL	MA-MW-4S-R2	MA-MW-5S-R1	MA-MW-5S-R1-D	MA-MW-5S-R2	MA-MW-8S-R1
Sample Date			09/17/2002	06/27/2002	06/27/2002	09/25/2002	06/12/2002
Sample Interval			4 - 14 ft	6 - 16 ft	6 - 16 ft	6 - 16 ft	4 - 14 ft
CLP Sample ID			B0N72	B0KZ7	B0KZ8	B0N64	B0KY7
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 U	5 U	5 U
Phthalate, diethyl	5000		5 U	5 U	5 U	5 U	5 U
Phthalate, dimethyl			5 U	5 U	5 U	5 U	5 U
Pyrene	200		5 U	5 U	3.3 J	5 U	5 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 U	5 U	5 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 U	20 U	20 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-08S	MA-MW-09D	MA-MW-09D	MA-MW-09S	MA-MW-09S
Sample ID	GWQC	MCL	MA-MW-8S-R2	MA-MW-9D-R1	MA-MW-9D-R2	MA-MW-9S-R1	MA-MW-9S-R2
Sample Date			09/17/2002	06/19/2002	09/19/2002	06/19/2002	09/19/2002
Sample Interval			4 - 14 ft	44 - 54 ft	44 - 54 ft	16 - 26 ft	16 - 26 ft
CLP Sample ID			B0N70	B0KY6	B0N65	B0KX6	B0N69
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Acenaphthene	400		5 U	5 U	5 U	5 U	5 U
Acenaphthylene			5 U	5 U	5 U	5 U	5 U
Acetophenone			5 U	5 U	5 U	5 U	5 U
Anthracene	2000		5 U	5 U	5 U	5 UJ	5 U
Atrazine	3	3	5 UJ	5 U	5 UJ	5 UJ	5 UJ
Benzaldehyde			5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene			5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene		0.2	5 U	5 U	5 U	5 UJ	5 U
Benzo(b)fluoranthene			5 U	5 U	5 U	5 UJ	5 U
Benzo(g,h,i)perylene			5 U	5 U	5 U	5 UJ	5 U
Benzo(k)fluoranthene			5 U	5 U	5 U	5 UJ	5 U
Biphenyl			5 U	5 U	5 U	5 U	5 U
Bromophenyl-4 Phenyl Ether			5 U	5 U	5 U	5 U	5 U
Butylbenzyl phthalate	100		5 U	5 U	5 U	5 U	5 U
Caprolactam			5 UJ	5 U	5 UJ	5 U	5 UJ
Chloroaniline-4			5 U	5 U	5 U	5 U	5 U
Chloronaphthalene-2			5 U	5 U	5 U	5 U	5 U
Chlorophenol-2	40		5 U	5 U	5 U	5 U	5 U
Chlorophenyl-4 phenyl ether			5 U	5 U	5 U	5 U	5 U
Chrysene			5 U	5 U	5 U	5 U	5 U
Cresol-4,6-dinitro-ortho			20 UJ	20 U	20 UJ	20 U	20 U
Cresol-o			5 U	5 U	5 U	5 U	5 U
Cresol-p			5 U	5 U	5 U	5 U	5 U
Cresol-parachloro-meta			5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene			5 U	5 U	5 U	5 UJ	5 U
Dibenzofuran			5 U	5 U	5 U	5 U	5 U
Dichlorobenzidine-3,3	60		5 R	5 U	5 R	5 U	5 R
Dichlorophenol-2,4	20		5 U	5 U	5 U	5 U	5 U
Dimethylphenol-2,4	100		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-08S	MA-MW-09D	MA-MW-09D	MA-MW-09S	MA-MW-09S
Sample ID	GWQC	MCL	MA-MW-8S-R2	MA-MW-9D-R1	MA-MW-9D-R2	MA-MW-9S-R1	MA-MW-9S-R2
Sample Date			09/17/2002	06/19/2002	09/19/2002	06/19/2002	09/19/2002
Sample Interval			4 - 14 ft	44 - 54 ft	44 - 54 ft	16 - 26 ft	16 - 26 ft
CLP Sample ID			B0N70	B0KY6	B0N65	B0KX6	B0N69
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Dinitrophenol-2,4	40		20 U	20 U	20 U	20 U	20 U
Dinitrotoluene-2,4	10		5 U	5 U	5 U	5 U	5 U
Dinitrotoluene-2,6			5 U	5 U	5 U	5 U	5 U
Ether, bis(2-chloroethyl)	10		5 U	5 U	5 U	7.2	15 (A)
Ether, bis-chloroisopropyl			5 UJ	5 U	5 UJ	5 U	5 UJ
Fluoranthene	300		5 U	5 U	5 U	5 U	5 U
Fluorene	300		5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	10	1	5 U	5 U	5 U	5 UJ	5 U
Hexachlorobutadiene	1		5 U	5 U	5 U	5 U	5 U
Hexachlorocyclopentadiene	50	50	5 U	5 U	5 U	5 U	5 U
Hexachloroethane	10		5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene			5 U	5 U	5 U	5 UJ	5 U
Isophorone	100		5 U	5 U	5 U	5 U	3.2 J
Methane, bis(2-chloroethoxy)			5 U	5 U	5 U	5 U	5 U
Methylnaphthalene-2			5 U	5 U	5 U	5 U	5 U
Naphthalene			5 U	5 U	5 U	5 U	5 U
Nitroaniline-2			20 U	20 U	20 U	20 U	20 U
Nitroaniline-3			20 U	20 U	20 U	20 U	20 U
Nitroaniline-4			20 U	20 U	20 U	20 U	20 U
Nitrobenzene	10		5 U	5 U	5 U	5 U	5 U
Nitrophenol-2			5 U	5 U	5 U	5 U	5 U
Nitrophenol-4			20 U	20 U	20 U	20 U	20 U
Nitroso-di-n-propyl-amine-N	20		5 U	5 U	5 U	5 U	5 U
Nitrosodiphenylamine-n	20		5 U	5 U	5 U	5 U	5 U
PCP (Pentachlorophenol)	1	1	5 U	5 U	5 U	5 U	5 U
Phenanthrene			5 U	5 U	5 U	5 UJ	5 U
Phenol	4000		5 U	5 U	5 U	5 U	5 U
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	5 U	5 U	5 U	5 U	2.6 J
Phthalate, di-n-butyl	900		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.10
Groundwater - Semivolatile Organic Compound Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-08S	MA-MW-09D	MA-MW-09D	MA-MW-09S	MA-MW-09S
Sample ID	GWQC	MCL	MA-MW-8S-R2	MA-MW-9D-R1	MA-MW-9D-R2	MA-MW-9S-R1	MA-MW-9S-R2
Sample Date			09/17/2002	06/19/2002	09/19/2002	06/19/2002	09/19/2002
Sample Interval			4 - 14 ft	44 - 54 ft	44 - 54 ft	16 - 26 ft	16 - 26 ft
CLP Sample ID			B0N70	B0KY6	B0N65	B0KX6	B0N69
Chemical Name							
Semivolatile Organic Compounds (ug/L)							
Phthalate, di-n-octyl	100		5 U	5 U	5 U	5 U	5 U
Phthalate, diethyl	5000		5 U	5 U	5 U	5 U	5 U
Phthalate, dimethyl			5 U	5 U	5 U	5 U	5 U
Pyrene	200		5 U	5 U	5 U	5 U	5 U
Tetrachlorobenzene-1,2,4,5			5 U	5 U	5 U	5 U	5 U
Trichlorophenol-2,4,5	700		20 U	20 U	20 U	20 U	20 U
Trichlorophenol-2,4,6	20		5 U	5 U	5 U	5 U	5 U

J - Reported value estimated in quantity
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.11
Groundwater - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-10S	MA-MW-10S	MA-MW-10S	MA-MW-10S	MA-MW-11M
Sample ID	GWQC	MCL	MA-MW-10S-R1	MA-MW-10S-R1	MA-MW-10S-R2	MA-MW-10S-R2	MA-MW-11M-R1
Sample Date			06/19/2002	06/19/2002	09/19/2002	09/19/2002	06/20/2002
Sample Interval			8 - 18 ft	8 - 18 ft	8 - 18 ft	8 - 18 ft	46 - 56 ft
CLP Sample ID			MB0KR8	MB0KW8	MB0NQ1-Dissolved	MB0NQ2	MB0KS1
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 U	200 U	57.7 U	566 (A)	200 U
Antimony	20	6	14 U	14 U	1.6 U	1.6 U	14 U
Arsenic	8	10	480 (AB)	470 (AB)	462 J (AB)	523 J (AB)	8 U
Barium	2000	2000	800	420	1100	1940	74
Beryllium	20	4	5 U	5 U	0.2 U	0.2 U	5 U
Cadmium	4	5	4 U	4 U	11.1 (AB)	45.7 (AB)	4 U
Calcium			130	130	122000	129000	71
Calcium			130	130	122000	129000	71
Chromium	100	100	6 U	6 U	3 B	5.5 B	6 U
Cobalt			8 U	8 U	0.4 U	0.48 B	9.9
Copper	1000	1300	10 U	10 U	1.8 B	12.5 B	15
Cyanide	200		0.7 UJ	NA	NA	2.2 B	0.7 UJ
Iron	300		12000 (A)	12000 (A)	10000 (A)	12500 (A)	200 U
Lead	10	15	7 U	7 U	0.7 U	35.5 J (AB)	7 U
Magnesium			52	51	40700	42300	36
Magnesium			52	51	40700	42300	36
Manganese	50		700 (A)	690 (A)	616 (A)	642 (A)	2000 (A)
Mercury	2	2	0.06 U	0.06 U	0.1 U	0.1 UJ	0.06 U
Nickel	100		5 U	5 U	4.4 B	5.5 B	18
Potassium			25	26	24600 J	26200 J	17
Potassium			25	26	24600 J	26200 J	17
Selenium	50	50	7 U	18	2.9 U	2.9 UJ	7 U
Silver			6 U	6 U	0.7 U	0.7 U	6 U
Sodium	50		51 (A)	52 (A)	49900 (A)	52100 (A)	96 (A)
Sodium	50000		51	52	49900	52100 (A)	96
Thallium	10	2	20 U	20 U	3.1 B (B)	2.6 U	20 U
Vanadium			10 U	10 U	1.9 B	4.1 B	10 U
Zinc	5000		160	22	11.1 B	474	65

B - Analyte detected in associated blank
J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result

U - Analyte not detected above reporting limit
(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.11
Groundwater - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-11M	MA-MW-11M	MA-MW-11M	MA-MW-11S	MA-MW-11S
Sample ID	GWQC	MCL	MA-MW-11M-R1	MA-MW-11M-R2	MA-MW-11M-R2	MA-MW-11S-R1	MA-MW-11S-R1
Sample Date			06/20/2002	09/23/2002	09/23/2002	06/20/2002	06/20/2002
Sample Interval			46 - 56 ft	46 - 56 ft	46 - 56 ft	11 - 21 ft	11 - 21 ft
CLP Sample ID			MB0KW9	MB0NQ4- Dissolved	MB0NQ6	MB0KS5	MB0KW6
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 U	193 B	117 B	17000 (A)	200 U
Antimony	20	6	14 U	1.6 U	1.6 UJ	14 U	14 U
Arsenic	8	10	8 U	1.3 U	1.3 UJ	12 (AB)	8 U
Barium	2000	2000	74	80.2 B	89.7 B	510	68
Beryllium	20	4	5 U	0.2 U	0.2 U	5 U	5 U
Cadmium	4	5	4 U	4.1 B (A)	8.3 (AB)	4 U	4.3 (A)
Calcium			73	73200	75500	48	41
Calcium			73	73200	75500	48	41
Chromium	100	100	6 U	0.6 U	1.1 B	54	9.3
Cobalt			9.5	8.4 B	9.4 B	13	8 U
Copper	1000	1300	16	12.4 B	20.8 B	26	10 U
Cyanide	200		NA	NA	1.5 U	0.7 UJ	NA
Iron	300		200 U	67.2 B	274	21000 (A)	200 U
Lead	10	15	7 U	0.7 U	1.7 B	51 (AB)	7 U
Magnesium			35	35800	36200	38	30
Magnesium			35	35800	36200	38	30
Manganese	50		1900 (A)	1950 (A)	2060 (A)	190 (A)	11
Mercury	2	2	0.06 U	0.1 U	0.1 U	0.06 U	0.06 U
Nickel	100		17	15.6 B	16 B	35	9.6
Potassium			17	17600	16800 J	5.7	4.5
Potassium			17	17600	16800 J	5.7	4.5
Selenium	50	50	17	2.9 U	2.9 UJ	12	22
Silver			6 U	0.7 U	0.7 U	6 U	6 U
Sodium	50		98 (A)	79800 (A)	81000 (A)	17	19
Sodium	50000		98	79800 (A)	81000 (A)	17	19
Thallium	10	2	20 U	2.6 U	2.6 U	20 U	20 U
Vanadium			10 U	0.98 B	0.58 B	39	10 U
Zinc	5000		52	85.2	273	1300	1300

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Groundwater - Metals Results
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Station ID	(A)	(B)	MA-MW-11S	MA-MW-11S	MA-MW-12M	MA-MW-12M	MA-MW-12M
Sample ID	GWQC	MCL	MA-MW-11S-R2	MA-MW-11S-R2	MA-MW-12M-R1	MA-MW-12M-R1	MA-MW-12M-R2
Sample Date			09/23/2002	09/23/2002	06/18/2002	06/18/2002	09/24/2002
Sample Interval			11 - 21 ft	11 - 21 ft	38.1 - 48.1 ft	38.1 - 48.1 ft	38.1 - 48.1 ft
CLP Sample ID			MB0NQ5	MB0NQ9- Dissolved	MB0KR6	MB0KT6	MB0NQ7- Dissolved
Chemical Name							
Metals (ug/L)							
Aluminum	200		1360 (A)	57.7 U	2300 (A)	200 U	57.7 U
Antimony	20	6	1.6 UJ	1.6 U	14 U	14 U	2.2 B
Arsenic	8	10	5.4 BJ	1.3 U	21 (AB)	16 (AB)	21 (AB)
Barium	2000	2000	113 B	66.6 B	210	190	210
Beryllium	20	4	0.2 U	0.2 U	5 U	5 U	0.33 B
Cadmium	4	5	4.4 B (A)	4.4 B (A)	4 U	4 U	0.2 U
Calcium			52100	46900	83	91	92600
Calcium			52100	46900	83	91	92600
Chromium	100	100	18.2	13.4	6 U	6 U	0.6 U
Cobalt			2.9 B	1.7 B	8 U	8 U	4.8 B
Copper	1000	1300	4.5 B	0.6 U	10 U	10 U	0.6 U
Cyanide	200		4.4 B	NA	0.7 UJ	NA	NA
Iron	300		1780 (A)	8.7 U	32000 (A)	29000 (A)	29900 (A)
Lead	10	15	5.5	0.7 U	7 U	7 U	0.7 U
Magnesium			33900	31900	28	30	30300
Magnesium			33900	31900	28	30	30300
Manganese	50		23.1	11.8 B	420 (A)	450 (A)	442 (A)
Mercury	2	2	0.1 U	0.1 U	0.05 U	0.06 U	0.1 U
Nickel	100		12.3 B	9.2 B	5.5 U	5 U	2.2 B
Potassium			4240 B	4130 B	25	27	26100
Potassium			4240 B	4130 B	25	27	26100
Selenium	50	50	12.6 J	12.3	7 U	14	2.9 U
Silver			0.7 U	0.7 U	6 U	6 U	0.7 U
Sodium	50		17900 (A)	18000 (A)	46	51 (A)	49200 (A)
Sodium	50000		17900	18000	46	51	49200
Thallium	10	2	2.6 U	2.6 U	20 U	20 U	2.6 U
Vanadium			3.4 B	0.4 U	11	10 U	0.4 U
Zinc	5000		1250	1210	16	8 U	5.2 B

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Station ID	(A)	(B)	MA-MW-12M	MA-MW-12S	MA-MW-12S	MA-MW-12S	MA-MW-12S
Sample ID	GWQC	MCL	MA-MW-12M-R2	MA-MW-12S-R1	MA-MW-12S-R1	MA-MW-12S-R2	MA-MW-12S-R2
Sample Date			09/24/2002	06/18/2002	06/18/2002	09/24/2002	09/24/2002
Sample Interval			38.1 - 48.1 ft	5.4 - 15.4 ft	5.4 - 15.4 ft	5.4 - 15.4 ft	5.4 - 15.4 ft
CLP Sample ID			MB0NQ8	MB0KR3	MB0KT7	MB0NR0	MB0NR2- Dissolved
Chemical Name							
Metals (ug/L)							
Aluminum	200		3980 (A)	1900 (A)	200 U	6870 (A)	57.7 U
Antimony	20	6	1.6 UJ	14 U	14 U	1.9 BJ	1.6 U
Arsenic	8	10	29.5 J (AB)	6.1 (AB)	50 (AB)	44.8 J (AB)	31.1 (AB)
Barium	2000	2000	337	55	40	113 B	63.9 B
Beryllium	20	4	1.5 B	5 U	5 U	0.58 B	0.23 B
Cadmium	4	5	0.2 U	4 U	4 U	0.25 B	0.2 U
Calcium			106000	88	94	110000	105000
Calcium			106000	88	94	110000	105000
Chromium	100	100	17.3	9.8	6 U	32.1	3.6 B
Cobalt			10.3 B	11	10	10.1 B	3 B
Copper	1000	1300	18.1 B	10 U	10 U	15 B	0.6 U
Cyanide	200		2.3 B	1.5 BJ	NA	10	NA
Iron	300		57700 (A)	22000 (A)	21000 (A)	30700 (A)	21600 (A)
Lead	10	15	6.4	7 U	7 U	24 (AB)	0.7 U
Magnesium			33400	77	76	59700	55600
Magnesium			33400	77	76	59700	55600
Manganese	50		590 (A)	550 (A)	560 (A)	528 (A)	461 (A)
Mercury	2	2	0.1 U	0.05 U	0.06 U	0.18 B	0.1 U
Nickel	100		8.8 B	9	5 U	15.8 B	2.9 B
Potassium			27500 J	16	17	17400 J	16800
Potassium			27500 J	16	17	17400 J	16800
Selenium	50	50	3.4 BJ	7 U	16	4.3 BJ	2.9 U
Silver			0.7 U	6 U	6 U	0.7 U	0.7 U
Sodium	50		51700 (A)	67 (A)	75 (A)	83200 (A)	80600 (A)
Sodium	50000		51700 (A)	67	75	83200 (A)	80600 (A)
Thallium	10	2	2.6 U	20 U	20 U	2.6 U	2.6 U
Vanadium			42.9 B	10 U	10 U	24.6 B	1.2 B
Zinc	5000		302	71	8 U	192	0.7 U

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Station ID	(A)	(B)	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13M
Sample ID	GWQC	MCL	MA-MW-13M-R1	MA-MW-13M-R1	MA-MW-13M-R1-D	MA-MW-13M-R1-D	MA-MW-13M-R2
Sample Date			06/27/2002	06/27/2002	06/27/2002	06/27/2002	09/25/2002
Sample Interval			48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft
CLP Sample ID			MB0KR0	MB0KT2	MB0KQ8	MB0KT3	MB0NR1- Dissolved
Chemical Name							
Metals (ug/L)							
Aluminum	200		210 (A)	200 U	200 U	200 U	105 B
Antimony	20	6	14 U	14 U	14 U	14 U	2 B
Arsenic	8	10	130 (AB)	130 (AB)	130 (AB)	130 (AB)	125 (AB)
Barium	2000	2000	150	130	150	130	139 B
Beryllium	20	4	5 U	5 U	5 U	5 U	0.2 U
Cadmium	4	5	4 U	4 U	4 U	4 U	0.2 U
Calcium			87	86	86	87	84800
Calcium			87	86	86	87	84800
Chromium	100	100	6 U	6 U	6 U	6 U	0.6 U
Cobalt			13	11	12	11	10.3 B
Copper	1000	1300	10 U	10 U	10 U	10 U	0.6 U
Cyanide	200		0.7 U	NA	0.7 U	NA	NA
Iron	300		22000 (A)	21000 (A)	22000 (A)	21000 (A)	20400 (A)
Lead	10	15	7 U	7 U	7 U	7 U	0.7 U
Magnesium			28	27	28	27	26800
Magnesium			28	27	28	27	26800
Manganese	50		760 (A)	740 (A)	760 (A)	740 (A)	696 (A)
Mercury	2	2	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U
Nickel	100		5.3	5 U	5.3	5 U	3.8 B
Potassium			30	30	31	31	29000
Potassium			30	30	31	31	29000
Selenium	50	50	7 U	10	7 U	7 U	2.9 U
Silver			6 U	6 U	6 U	6 U	0.7 U
Sodium	50000		79	77	80	79	69200 (A)
Sodium	50		79 (A)	77 (A)	80 (A)	79 (A)	69200 (A)
Thallium	10	2	20 U	20 U	20 U	20 U	2.6 U
Vanadium			10 U	10 U	10 U	10 U	0.4 U
Zinc	5000		290	280	280	290	279

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Station ID	(A)	(B)	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13S	MA-MW-13S
Sample ID	GWQC	MCL	MA-MW-13M-R2	MA-MW-13M-R2-D	MA-MW-13M-R2-D	MA-MW-13S-R1	MA-MW-13S-R1
Sample Date			09/25/2002	09/25/2002	09/25/2002	06/28/2002	06/28/2002
Sample Interval			48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	6.6 - 16.6 ft	6.6 - 16.6 ft
CLP Sample ID			MB0NR5	MB0NP5- Dissolved	MB0NP6	MB0KR2	MB0KT4
Chemical Name							
Metals (ug/L)							
Aluminum	200		1810 (A)	67.5 B	1600 (A)	400 (A)	200 U
Antimony	20	6	1.6 UJ	1.6 U	1.6 UJ	14 U	14 U
Arsenic	8	10	143 J (AB)	124 (AB)	138 J (AB)	6400 (AB)	2000 (AB)
Barium	2000	2000	277	141 B	220	26000 (AB)	1000
Beryllium	20	4	1.4 B	0.26 B	1.2 B	5 U	5 U
Cadmium	4	5	0.92 B	0.2 U	0.7 B	4 U	4 U
Calcium			89200	86200	88800	890	440
Calcium			89200	86200	88800	890	440
Chromium	100	100	18.5	0.6 U	14.6	18	9.1
Cobalt			15 B	10.8 B	14.2 B	8.4	8 U
Copper	1000	1300	24 B	0.6 U	23.4 B	16	10 U
Cyanide	200		7.3 B	NA	2.7 B	0.7 U	NA
Iron	300		45400 (A)	20800 (A)	44200 (A)	70000 (A)	990 (A)
Lead	10	15	2.2 B	0.7 U	1.8 B	7 U	7 U
Magnesium			27900	27400	28100	66	54
Magnesium			27900	27400	28100	66	54
Manganese	50		743 (A)	706 (A)	734 (A)	200 (A)	53 (A)
Mercury	2	2	0.1 U	0.1 U	0.1 U	0.17	0.05 U
Nickel	100		13.1 B	3.9 B	11 B	36	30
Potassium			28300 J	29600	28100 J	53	70
Potassium			28300 J	29600	28100 J	53	70
Selenium	50	50	3 BJ	2.9 U	2.9 UJ	7 U	23
Silver			0.7 U	0.7 U	0.7 U	6 U	6 U
Sodium	50		70500 (A)	69700 (A)	70400 (A)	88 (A)	110 (A)
Sodium	50000		70500 (A)	69700 (A)	70400 (A)	88	110
Thallium	10	2	2.6 U	2.6 U	2.6 U	20 U	20 U
Vanadium			29 B	0.4 U	25.6 B	14	15
Zinc	5000		540	284	480	130 U	29

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Station ID	(A)	(B)	MA-MW-13S	MA-MW-13S	MA-MW-14D	MA-MW-14D	MA-MW-14D
Sample ID	GWQC	MCL	MA-MW-13S-R2	MA-MW-13S-R2	MA-MW-14D-R1	MA-MW-14D-R1	MA-MW-14D-R2
Sample Date			09/25/2002	09/25/2002	06/18/2002	06/18/2002	09/24/2002
Sample Interval			6.6 - 16.6 ft	6.6 - 16.6 ft	170 - 188 ft	170 - 188 ft	170 - 188 ft
CLP Sample ID			MB0NR3- Dissolved	MB0NR4	MB0KQ6	MB0KS9	MB0NR7
Chemical Name							
Metals (ug/L)							
Aluminum	200		110 B	206 (A)	650 (A)	200 U	772 (A)
Antimony	20	6	23.7 B (AB)	6.4 BU (B)	14 U	14 U	1.6 UJ
Arsenic	8	10	5890 R	3550 R	8 U	8 U	2.4 BJ
Barium	2000	2000	3560 (AB)	36500 (AB)	34	28	38.3 B
Beryllium	20	4	0.2 U	0.2 U	5 U	5 U	0.2 U
Cadmium	4	5	0.2 U	0.2 U	4 U	4 U	0.2 U
Calcium			976000	953000	5.9	5.8	6250
Calcium			976000	953000	5.9	5.8	6250
Chromium	100	100	9 B	35.8	6 U	6 U	4.1 B
Cobalt			2.9 B	4.4 B	8.8	8.9	12.5 B
Copper	1000	1300	0.6 U	34.7	23	10 U	7.8 B
Cyanide	200		NA	1.5 U	0.83 B	NA	1.5 U
Iron	300		235	11700 (A)	2600 (A)	2100 (A)	3660 (A)
Lead	10	15	0.7 U	3.9	7 U	7 U	2.6 B
Magnesium			42800	97800	1.5	1.5	1780 B
Magnesium			42800	97800	1.5	1.5	1780 B
Manganese	50		11 B	139 (A)	190 (A)	190 (A)	214 (A)
Mercury	2	2	0.37	0.8	0.05 U	0.05 U	0.1 U
Nickel	100		16.4 B	33.8 B	6	5 U	6 B
Potassium			176000 J	119000 J	2.4	2.5	1990 B
Potassium			176000 J	119000 J	2.4	2.5	1990 B
Selenium	50	50	11.6	8.4 J	7 U	7 U	2.9 UJ
Silver			0.7 U	0.7 U	6 U	6 U	0.7 U
Sodium	50		184000 J (A)	145000 J (A)	15	16	15400 (A)
Sodium	50000		184000 J (A)	145000 J (A)	15	16	15400
Thallium	10	2	2.6 U	2.6 U	20 U	20 U	2.6 U
Vanadium			39.5 B	28.1 B	10 U	10 U	4.7 B
Zinc	5000		15.1 B	50.8	21	17	30.8

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Station ID	(A)	(B)	MA-MW-14D	MA-MW-14R	MA-MW-14R	MA-MW-14R	MA-MW-14R
Sample ID	GWQC	MCL	MA-MW-14D-R2	MA-MW-14R-R1	MA-MW-14R-R1	MA-MW-14R-R2	MA-MW-14R-R2
Sample Date			09/24/2002	06/18/2002	06/18/2002	09/24/2002	09/24/2002
Sample Interval			170 - 188 ft	109.5 - 119.5 ft	109.5 - 119.5 ft	109.5 - 119.5 ft	109.5 - 119.5 ft
CLP Sample ID			MB0NR8- Dissolved	MB0KQ9	MB0KT1	MB0NR6- Dissolved	MB0NS1
Chemical Name							
Metals (ug/L)							
Aluminum	200		57.7 U	210 (A)	200 U	57.7 U	503 (A)
Antimony	20	6	1.6 U	14 U	14 U	1.6 U	1.6 UJ
Arsenic	8	10	1.3 U	8 U	8 U	1.9 B	5 BJ
Barium	2000	2000	32.4 B	55	54	60.2 B	70.1 B
Beryllium	20	4	0.27 B	5 U	5 U	0.2 U	0.2 U
Cadmium	4	5	0.2 U	4 U	4 U	0.2 U	0.2 U
Calcium			5610	27	29	33700	37200
Calcium			5610	27	29	33700	37200
Chromium	100	100	0.6 U	6 U	6 U	0.6 U	3.2 B
Cobalt			9.6 B	29	30	31.9 B	34.8 B
Copper	1000	1300	0.6 U	10 U	10 U	0.6 U	5.2 B
Cyanide	200		NA	0.7 UJ	NA	NA	2.1 B
Iron	300		2320 (A)	11000 (A)	11000 (A)	13100 (A)	14600 (A)
Lead	10	15	0.7 U	7 U	7 U	0.7 U	1.8 B
Magnesium			1620 B	11	11	12900	13800
Magnesium			1620 B	11	11	12900	13800
Manganese	50		198 (A)	1800 (A)	1900 (A)	2130 (A)	2290 (A)
Mercury	2	2	0.1 U	0.05 U	0.06 U	0.1 U	0.1 U
Nickel	100		4.1 B	10	9.9	9.8 B	11.4 B
Potassium			2070 B	6	6.3	6720	6800 J
Potassium			2070 B	6	6.3	6720	6800 J
Selenium	50	50	2.9 U	7 U	7.8	2.9 U	3.1 BJ
Silver			0.7 U	6 U	6 U	0.7 U	0.7 U
Sodium	50		15600 (A)	76 (A)	79 (A)	76100 (A)	78900 (A)
Sodium	50000		15600	76	79	76100 (A)	78900 (A)
Thallium	10	2	2.6 U	20 U	20 U	2.6 B (B)	2.7 B (B)
Vanadium			0.4 U	10 U	10 U	0.4 U	5.4 B
Zinc	5000		19.5 B	11	10	5.4 B	18.1 B

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Station ID	(A)	(B)	MA-MW-14S	MA-MW-14S	MA-MW-14S	MA-MW-14S	MA-MW-14S
Sample ID	GWQC	MCL	MA-MW-14S-R1	MA-MW-14S-R1	MA-MW-14S-R2	MA-MW-14S-R2	MA-MW-14S-R2-D
Sample Date			06/18/2002	06/18/2002	09/24/2002	09/24/2002	09/24/2002
Sample Interval			7 - 20 ft	7 - 20 ft	7 - 20 ft	7 - 20 ft	7 - 20 ft
CLP Sample ID			MB0KQ7	MB0M60	MB0NR9- Dissolved	MB0NS0	MB0NP8
Chemical Name							
Metals (ug/L)							
Aluminum	200		250 (A)	200 U	57.7 U	97.6 B	109 B
Antimony	20	6	14 U	14 U	4 B	1.6 UJ	1.6 UJ
Arsenic	8	10	31 (AB)	27 (AB)	45.2 J (AB)	42.1 J (AB)	42.6 J (AB)
Barium	2000	2000	37	38	50 B	48.7 B	51 B
Beryllium	20	4	5 U	5 U	0.2 U	0.2 U	0.2 U
Cadmium	4	5	4 U	4 U	0.2 U	0.2 U	0.2 U
Calcium			69	76	86600 J	88300	92200
Calcium			69	76	86600 J	88300	92200
Chromium	100	100	6 U	6 U	2.4 B	3.3 B	3.2 B
Cobalt			8 U	8 U	0.4 U	0.61 B	0.4 U
Copper	1000	1300	10 U	10 U	0.6 U	2.6 B	2.4 B
Cyanide	200		0.7 UJ	NA	NA	10.6	11.3
Iron	300		1200 (A)	1100 (A)	933 J (A)	923 (A)	953 (A)
Lead	10	15	7 U	7 U	0.7 U	0.7 U	0.7 U
Magnesium			60	65	78100 J	78000	81700
Magnesium			60	65	78100 J	78000	81700
Manganese	50		240 (A)	260 (A)	269 J (A)	274 (A)	287 (A)
Mercury	2	2	0.05 U	0.06 U	0.1 U	0.1 U	0.1 U
Nickel	100		5 U	5 U	2.7 B	2.2 B	2.9 B
Potassium			17	19	22900 J	22000 J	23100 J
Potassium			17	19	22900 J	22000 J	23100 J
Selenium	50	50	7 U	14	2.9 U	2.9 UJ	2.8 UJ
Silver			6 U	6 U	0.7 U	0.7 U	0.7 U
Sodium	50000		66	72	70900 (A)	71100 (A)	74100 (A)
Sodium	50		66 (A)	72 (A)	70900 (A)	71100 (A)	74100 (A)
Thallium	10	2	20 U	20 U	2.6 U	2.6 U	2.6 U
Vanadium			10 U	10 U	3.7 B	2.2 B	1.6 B
Zinc	5000		8 U	12	0.7 U	0.7 U	0.7 U

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Station ID	(A)	(B)	MA-MW-14S	MA-MW-15M	MA-MW-15M	MA-MW-15M	MA-MW-15M
Sample ID	GWQC	MCL	MA-MW-14S-R2-D	MA-MW-15M-R1	MA-MW-15M-R1	MA-MW-15M-R2	MA-MW-15M-R2
Sample Date			09/24/2002	06/19/2002	06/19/2002	09/23/2002	09/23/2002
Sample Interval			7 - 20 ft	59.4 - 69.4 ft	59.4 - 69.4 ft	59.4 - 69.4 ft	59.4 - 69.4 ft
CLP Sample ID			MB0NQ0- Dissolved	MB0KS7	MB0M61	MB0M97- Dissolved	MB0M98
Chemical Name							
Metals (ug/L)							
Aluminum	200		57.7 U	NA	200 U	57.7 U	14800 (A)
Antimony	20	6	1.9 B	NA	14 U	2.9 B	7 BJ (B)
Arsenic	8	10	24.7 J (AB)	NA	8 U	1.5 B	15.8 J (AB)
Barium	2000	2000	27.1 B	NA	100	113 B	175 B
Beryllium	20	4	0.2 U	NA	5 U	0.22 B	12.8 (B)
Cadmium	4	5	0.2 U	NA	4 U	0.2 U	0.2 U
Calcium			48800 J	NA	47	50400	50800
Calcium			48800 J	NA	47	50400	50800
Chromium	100	100	1.3 B	NA	6 U	0.6 U	72.6
Cobalt			0.4 U	NA	28	25.4 B	68
Copper	1000	1300	0.6 U	NA	10 U	0.6 U	144
Cyanide	200		NA	3.9 BJ	NA	NA	6 B
Iron	300		479 J (A)	NA	28000 (A)	27000 (A)	250000 (A)
Lead	10	15	0.7 U	NA	7 U	0.7 U	0.7 U
Magnesium			44200 J	NA	17	18200	18300
Magnesium			44200 J	NA	17	18200	18300
Manganese	50		153 J (A)	NA	1900 (A)	1740 (A)	2020 (A)
Mercury	2	2	0.1 U	NA	0.06 U	0.1 U	0.11 B
Nickel	100		1.3 B	NA	7.4	8.2 B	85.7
Potassium			12800 J	NA	16	17200	16800 J
Potassium			12800 J	NA	16	17200	16800 J
Selenium	50	50	2.9 U	NA	13	2.9 U	8.6 J
Silver			0.7 U	NA	6 U	0.7 U	0.7 U
Sodium	50		42800 (A)	NA	68 (A)	63800 (A)	61400 (A)
Sodium	50000		42800	NA	68	63800 (A)	61400 (A)
Thallium	10	2	2.6 U	NA	20 U	2.6 U	12.8 (AB)
Vanadium			1.8 B	NA	10 U	0.92 B	185
Zinc	5000		0.7 U	NA	13	18.8 B	344

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Station ID	(A)	(B)	MA-MW-15S	MA-MW-15S	MA-MW-15S	MA-MW-15S	MA-MW-16S
Sample ID	GWQC	MCL	MA-MW-15S-R1	MA-MW-15S-R1	MA-MW-15S-R2	MA-MW-15S-R2	MA-MW-16S-R1
Sample Date			06/19/2002	06/19/2002	09/25/2002	09/25/2002	06/27/2002
Sample Interval			6.8 - 16.8 ft	6.8 - 16.8 ft	6.8 - 16.8 ft	6.8 - 16.8 ft	6.5 - 16.5 ft
CLP Sample ID			MB0KR9	MB0M62	MB0M82	MB0M83- Dissolved	MB0KY3
Chemical Name							
Metals (ug/L)							
Aluminum	200		2700 (A)	200 U	2580 (A)	57.7 U	570 (A)
Antimony	20	6	14 U	14 U	3.7 BJ	1.6 U	14 U
Arsenic	8	10	8 U	1200 (AB)	1770 J (AB)	857 (AB)	2200 (AB)
Barium	2000	2000	95	510	852	650	250
Beryllium	20	4	5 U	5 U	0.2 U	0.2 U	5 U
Cadmium	4	5	4 U	4 U	2.6 B	0.2 U	4 U
Calcium			40	130	139000	129000	100
Calcium			40	130	139000	129000	100
Chromium	100	100	15	10	55.5	13.4	34
Cobalt			32	8 U	2.1 B	0.4 U	8 U
Copper	1000	1300	24	10 U	41	0.6 U	10 U
Cyanide	200		0.7 UJ	NA	13.6	NA	0.7 UJ
Iron	300		57000 (A)	12000 (A)	23200 (A)	9320 (A)	18000 (A)
Lead	10	15	7 U	7 U	192 (AB)	0.7 U	7 U
Magnesium			15	160	170000	157000	160
Magnesium			15	160	170000	157000	160
Manganese	50		1700 (A)	440 (A)	565 (A)	549 (A)	570 (A)
Mercury	2	2	0.06 U	0.06 U	0.1 U	0.1 U	0.05 U
Nickel	100		24	5 U	21.1 B	3.4 B	10
Potassium			14	21	27100 J	24500	18
Potassium			14	21	27100 J	24500	18
Selenium	50	50	7 U	40	2.9 UJ	2.9 U	7 U
Silver			6 U	6 U	0.7 U	0.7 U	6 U
Sodium	50		58 (A)	74 (A)	105000 (A)	75500 (A)	110 (A)
Sodium	50000		58	74	105000 (A)	75500 (A)	110
Thallium	10	2	20 U	20 U	2.6 U	2.6 U	20 U
Vanadium			29	10 U	20 B	5 B	10 U
Zinc	5000		70	8 U	1020	3.9 B	66

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Station ID	(A)	(B)	MA-MW-16S	MA-MW-16S	MA-MW-16S	MA-MW-17M	MA-MW-17M
Sample ID	GWQC	MCL	MA-MW-16S-R1	MA-MW-16S-R2	MA-MW-16S-R2	MA-MW-17M-R1	MA-MW-17M-R1
Sample Date			06/27/2002	09/25/2002	09/25/2002	06/14/2002	06/14/2002
Sample Interval			6.5 - 16.5 ft	6.5 - 16.5 ft	6.5 - 16.5 ft	41.82 - 51.82 ft	41.82 - 51.82 ft
CLP Sample ID			MB0M63	MB0M84- Dissolved	MB0M86	MB0KY2	MB0M64
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 U	57.7 U	584 (A)	4700 (A)	200 U
Antimony	20	6	14 U	1.6 U	1.6 UJ	14 U	14 U
Arsenic	8	10	2100 (AB)	2060 (AB)	1980 J (AB)	8 U	8 U
Barium	2000	2000	210	425	528	99	62
Beryllium	20	4	5 U	0.2 U	0.2 U	5 U	5 U
Cadmium	4	5	4 U	0.2 U	0.22 B	4 U	4 U
Calcium			100	97100	102000	64	70
Calcium			100	97100	102000	64	70
Chromium	100	100	6	11.8	69.1	19	6 U
Cobalt			8 U	0.81 B	2.4 B	14	8 U
Copper	1000	1300	10 U	0.6 U	7.5 B	25	10 U
Cyanide	200		NA	NA	19.7	12.2 R	NA
Iron	300		20000 (A)	4090 (A)	8740 (A)	45000 (A)	2400 (A)
Lead	10	15	7 U	0.7 U	7.4	7 U	7 U
Magnesium			140	208000	211000	21	23
Magnesium			140	208000	211000	21	23
Manganese	50		560 (A)	346 (A)	370 (A)	720 (A)	740 (A)
Mercury	2	2	0.05 U	0.1 U	0.1 U	0.5 U	0.05 U
Nickel	100		9.2	8.1 B	12.5 B	20	5 U
Potassium			17	24400	23500 J	17	20
Potassium			17	24400	23500 J	17	20
Selenium	50	50	37	2.9 U	2.9 UJ	7 U	13
Silver			6 U	0.7 U	0.7 U	6 U	6 U
Sodium	50000		92	98100 (A)	100000 (A)	56	65
Sodium	50		92 (A)	98100 (A)	100000 (A)	56 (A)	65 (A)
Thallium	10	2	20 U	2.6 U	2.6 U	20 U	20 U
Vanadium			10 U	4.6 B	6.2 B	34	10 U
Zinc	5000		52	0.7 U	76.2	62	8 U

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Station ID	(A)	(B)	MA-MW-17M	MA-MW-17M	MA-MW-17S	MA-MW-17S	MA-MW-17S
Sample ID	GWQC	MCL	MA-MW-17M-R2	MA-MW-17M-R2	MA-MW-17S-R1	MA-MW-17S-R1	MA-MW-17S-R2
Sample Date			09/18/2002	09/18/2002	06/14/2002	06/14/2002	09/18/2002
Sample Interval			41.82 - 51.82 ft	41.82 - 51.82 ft	8 - 18 ft	8 - 18 ft	8 - 18 ft
CLP Sample ID			MB0M85	MB0M89-Dissolved	MB0KY4	MB0M65	MB0M87
Chemical Name							
Metals (ug/L)							
Aluminum	200		6090 (A)	57.7 U	200 U	200 U	57.7 U
Antimony	20	6	1.6 U	1.7 B	14 U	14 U	1.8 B
Arsenic	8	10	14.6 J (AB)	2.6 B	290 (AB)	290 (AB)	541 J (AB)
Barium	2000	2000	191 B	65.4 B	110	120	136 B
Beryllium	20	4	3.6 B	0.2 U	5 U	5 U	0.2 U
Cadmium	4	5	0.2 U	0.2 U	14 (AB)	14 (AB)	12.2 (AB)
Calcium			70500	71100	88	88	84900
Calcium			70500	71100	88	88	84900
Chromium	100	100	28.7	0.6 U	6 U	6 U	1.3 B
Cobalt			14.9 B	5.6 B	8 U	8 U	1.7 B
Copper	1000	1300	43.3	1.2 B	12	11	8.8 B
Cyanide	200		2.5 B	NA	3.4 BR	NA	1.5 U
Iron	300		71000 (A)	2610 (A)	300 (A)	470 (A)	3030 (A)
Lead	10	15	8.9 J	0.7 U	7 U	7 U	0.7 U
Magnesium			22500	22400	29	30	27400
Magnesium			22500	22400	29	30	27400
Manganese	50		725 (A)	650 (A)	96 (A)	110 (A)	120 (A)
Mercury	2	2	0.14 BJ	0.1 U	0.5 U	0.05 U	0.1 UJ
Nickel	100		20.7 B	3.5 B	8.7	8.2	6 B
Potassium			18900 J	18400 J	9.8	10	9010 J
Potassium			18900 J	18400 J	9.8	10	9010 J
Selenium	50	50	2.9 UJ	2.9 U	7 U	17	2.9 UJ
Silver			0.7 U	0.7 U	6 U	6 U	0.7 U
Sodium	50		58800 (A)	60400 (A)	21	21	24800 (A)
Sodium	50000		58800 (A)	60400 (A)	21	21	24800
Thallium	10	2	2.6 U	2.7 B (B)	20 U	20 U	2.6 U
Vanadium			60.9	0.4 U	10 U	10 U	2.6 B
Zinc	5000		88.3	10.6 B	2900	2900	2100

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Station ID	(A)	(B)	MA-MW-17S	MA-MW-18D	MA-MW-18D	MA-MW-18D	MA-MW-18D
Sample ID	GWQC	MCL	MA-MW-17S-R2	MA-MW-18D-R1	MA-MW-18D-R1	MA-MW-18D-R2	MA-MW-18D-R2
Sample Date			09/18/2002	06/17/2002	06/17/2002	09/18/2002	09/18/2002
Sample Interval			8 - 18 ft	140 - 152 ft	140 - 152 ft	140 - 152 ft	140 - 152 ft
CLP Sample ID			MB0M88-Dissolved	MB0KX9	MB0M66	MB0M90	MB0M95-Dissolved
Chemical Name							
Metals (ug/L)							
Aluminum	200		57.7 U	320 (A)	200 U	3670 (A)	57.7 U
Antimony	20	6	1.6 U	14 U	14 U	1.6 U	1.6 U
Arsenic	8	10	564 J (AB)	8 U	8 U	3.5 B	1.3 U
Barium	2000	2000	142 B	47	43	93.5 B	48.7 B
Beryllium	20	4	0.2 U	5 U	5 U	0.66 B	0.2 U
Cadmium	4	5	12.7 (AB)	4 U	4 U	0.2 U	0.2 U
Calcium			89700	10	10	14100	10200
Calcium			89700	10	10	14100	10200
Chromium	100	100	2.2 B	6 U	6 U	10.6	0.88 B
Cobalt			2 B	8 U	8 U	11.8 B	7.9 B
Copper	1000	1300	8 B	10 U	10 U	9.3 B	1.7 B
Cyanide	200		NA	1.2 BR	NA	1.5 U	NA
Iron	300		3330 (A)	430 (A)	250	8300 (A)	284
Lead	10	15	0.7 U	7 U	7 U	16.6 J (AB)	0.7 U
Magnesium			28900	3.5	3.5	5120	3580 B
Magnesium			28900	3.5	3.5	5120	3580 B
Manganese	50		132 (A)	360 (A)	350 (A)	598 (A)	415 (A)
Mercury	2	2	0.1 U	0.05 U	0.05 U	0.1 UJ	0.1 U
Nickel	100		6.6 B	5 U	5 U	5.6 B	2.6 B
Potassium			9450 J	3.6	3.7	3150 B	2450 B
Potassium			9450 J	3.6	3.7	3150 B	2450 B
Selenium	50	50	2.9 U	7 U	7 U	2.9 UJ	2.9 U
Silver			0.7 U	6 U	6 U	0.7 U	0.7 U
Sodium	50		25300 (A)	27	27	26400 (A)	21600 (A)
Sodium	50000		25300	27	27	26400	21600
Thallium	10	2	2.6 U	20 U	20 U	2.6 U	2.6 U
Vanadium			2.5 B	10 U	10 U	18 B	1.2 B
Zinc	5000		2190	8.5	8 U	34.5	3.3 B

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Sample ID	GWQC	MCL	MA-MW-18M-R1	MA-MW-18M-R1	MA-MW-18M-R2	MA-MW-18M-R2	MA-MW-18S-R1
Sample Date			06/17/2002	06/17/2002	09/18/2002	09/18/2002	06/17/2002
Sample Interval			31.77 - 41.77 ft	31.77 - 41.77 ft	31.77 - 41.77 ft	31.77 - 41.77 ft	7.8 - 17.8 ft
CLP Sample ID			MB0KY0	MB0M67	MB0M91-Dissolved	MB0M92	MB0KY1
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 U	200 U	57.7 U	268 (A)	350 (A)
Antimony	20	6	14 U	14 U	1.6 U	1.6 U	14 U
Arsenic	8	10	58 (AB)	94 (AB)	98.9 J (AB)	94.8 J (AB)	9.2 (A)
Barium	2000	2000	80	130	154 B	187 B	5400 (AB)
Beryllium	20	4	5 U	5 U	0.2 U	0.2 U	5 U
Cadmium	4	5	4 U	4 U	0.2 U	0.2 U	4 U
Calcium			49	82	84900	82200	140
Calcium			49	82	84900	82200	140
Chromium	100	100	6 U	6 U	0.6 U	1.4 B	6 U
Cobalt			8 U	9	8.4 B	8.4 B	8 U
Copper	1000	1300	10 U	10 U	1.3 B	4.1 B	10 U
Cyanide	200		5.9 BR	NA	NA	1.5 U	18.1 R
Iron	300		16000 (A)	27000 (A)	26900 (A)	27100 (A)	28000 (A)
Lead	10	15	7 U	7 U	0.7 U	1.5 B	7 U
Magnesium			17	28	28500	28000	18
Magnesium			17	28	28500	28000	18
Manganese	50		170 (A)	280 (A)	278 (A)	313 (A)	1600 (A)
Mercury	2	2	0.05 U	0.05 U	0.1 U	0.1 UJ	0.5 U
Nickel	100		5 U	5 U	1.8 B	3 B	5 U
Potassium			9.9	17	14700 J	14700 J	14
Potassium			9.9	17	14700 J	14700 J	14
Selenium	50	50	7 U	15	2.9 U	2.9 UJ	7 U
Silver			6 U	6 U	0.7 U	0.7 U	6 U
Sodium	50000		26	45	41900	41900	39
Sodium	50		26	45	41900 (A)	41900 (A)	39
Thallium	10	2	20 U	20 U	2.6 U	2.6 U	20 U
Vanadium			10 U	10 U	0.4 U	2.7 B	10 U
Zinc	5000		8 U	8 U	7.5 B	18.5 B	160

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Station ID	(A)	(B)	MA-MW-18S	MA-MW-18S	MA-MW-18S	MA-MW-19M	MA-MW-19M
Sample ID	GWQC	MCL	MA-MW-18S-R1	MA-MW-18S-R2	MA-MW-18S-R2	MA-MW-19M-R1	MA-MW-19M-R1
Sample Date			06/17/2002	09/18/2002	09/18/2002	06/17/2002	06/17/2002
Sample Interval			7.8 - 17.8 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	42 - 52 ft	42 - 52 ft
CLP Sample ID			MB0M68	MB0M93	MB0M94-Dissolved	MB0KX7	MB0M69
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 U	7.19 (A)	57.7 U	1300 (A)	200 U
Antimony	20	6	14 U	1.6 U	1.6 U	14 U	14 U
Arsenic	8	10	8 U	12.8 (AB)	10.6 (AB)	8 U	8 U
Barium	2000	2000	5200 (AB)	6310 (AB)	5740 (AB)	82	76
Beryllium	20	4	5 U	0.2 U	0.2 U	5 U	5 U
Cadmium	4	5	4 U	0.2 U	0.2 U	4 U	4 U
Calcium			140	134000	134000	42	45
Calcium			140	134000	134000	42	45
Chromium	100	100	6 U	3.8 B	3.1 B	6 U	6 U
Cobalt			8 U	2.1 B	1 B	16	18
Copper	1000	1300	10 U	5.8 B	1.7 B	20	10 U
Cyanide	200		NA	9.1 B	NA	1.2 BR	NA
Iron	300		28000 (A)	26800 (A)	25400 (A)	7800 (A)	7500 (A)
Lead	10	15	7 U	13.2 (A)	0.7 U	7 U	7 U
Magnesium			17	15800	15700	20	21
Magnesium			17	15800	15700	20	21
Manganese	50		1600 (A)	1350 (A)	1350 (A)	560 (A)	590 (A)
Mercury	2	2	0.05 U	0.1 UJ	0.1 U	0.5 U	0.05 U
Nickel	100		5 U	6.5 B	2.9 B	5 U	5 U
Potassium			14	12000 J	11700 J	9.9	11
Potassium			14	12000 J	11700 J	9.9	11
Selenium	50	50	21	2.9 UJ	2.9 U	7 U	7.6
Silver			6 U	0.7 U	0.7 U	6 U	6 U
Sodium	50000		40	27000	27800	44	47
Sodium	50		40	27000 (A)	27800 (A)	44	47
Thallium	10	2	20 U	2.6 U	5.3 (B)	20 U	20 U
Vanadium			10 U	3.4 B	0.4 U	10 U	10 U
Zinc	5000		88	164	90.2	70	66

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Table G.11
Groundwater - Metals Results
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Station ID	(A)	(B)	MA-MW-19M	MA-MW-19M	MA-MW-19R	MA-MW-19R	MA-MW-19R
Sample ID	GWQC	MCL	MA-MW-19M-R2	MA-MW-19M-R2	MA-MW-19R-R1	MA-MW-19R-R1	MA-MW-19R-R2
Sample Date			09/19/2002	09/19/2002	06/17/2002	06/17/2002	09/19/2002
Sample Interval			42 - 52 ft	42 - 52 ft	103 - 113 ft	103 - 113 ft	103 - 113 ft
CLP Sample ID			MB0M96	MB0MA1-Dissolved	MB0KX6	MB0M70	MB0M99
Chemical Name							
Metals (ug/L)							
Aluminum	200		909 (A)	57.7 U	1500 (A)	260 (A)	453 (A)
Antimony	20	6	1.6 U	1.6 U	14 U	14 U	2 B
Arsenic	8	10	3.3 B	2.2 B	8 U	8 U	1.6 B
Barium	2000	2000	98.2 B	77.5 B	140	130	141 B
Beryllium	20	4	0.23 B	0.2 U	5 U	5 U	0.46 B
Cadmium	4	5	0.2 U	0.2 U	4 U	4 U	0.79 B
Calcium			45700	44700	170	180	156000
Calcium			45700	44700	170	180	156000
Chromium	100	100	4.7 B	0.6 U	15	6 U	3.5 B
Cobalt			17.7 B	16.6 B	73	77	58.7 J
Copper	1000	1300	23.1 B	2 B	170	140	226
Cyanide	200		1.5 U	NA	0.7 UR	NA	11.6
Iron	300		9540 (A)	7550 (A)	94000 (A)	96000 (A)	80200 (A)
Lead	10	15	2.6 B	0.7 U	7 U	7 U	3.3
Magnesium			20400	20000	74	78	66800
Magnesium			20400	20000	74	78	66800
Manganese	50		594 (A)	589 (A)	5000 (A)	5200 (A)	4490 (A)
Mercury	2	2	0.1 UJ	0.1 U	0.05	0.05 U	0.1 UJ
Nickel	100		4.4 B	3.1 B	63	60	45.4
Potassium			8900 J	8680 J	34	40	44500 J
Potassium			8900 J	8680 J	34	40	44500 J
Selenium	50	50	2.9 UJ	2.9 U	7 U	7 U	2.9 UJ
Silver			0.7 U	0.7 U	6 U	6 U	0.7 U
Sodium	50		40100 (A)	40600 (A)	3500 (A)	3700 (A)	3010000 (A)
Sodium	50000		40100	40600	3500	3700	3010000 (A)
Thallium	10	2	2.6 U	3.6 B (B)	20 U	20 U	12.5 (AB)
Vanadium			6.6 B	0.4 U	10 U	10 U	4.6 B
Zinc	5000		69.4	52.6	130	110	78.6

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Sample ID	GWQC	MCL	MA-MW-19R-R2	MA-MW-19S-R1	MA-MW-19S-R1	MA-MW-19S-R2	MA-MW-19S-R2
Sample Date			09/19/2002	06/17/2002	06/17/2002	09/19/2002	09/19/2002
Sample Interval			103 - 113 ft	5.05 - 15.05 ft	5.05 - 15.05 ft	5.05 - 15.05 ft	5.05 - 15.05 ft
CLP Sample ID			MB0MA0-Dissolved	MB0KX8	MB0M71	MB0MA3-Dissolved	MB0MA4
Chemical Name							
Metals (ug/L)							
Aluminum	200		206 (A)	430 (A)	200 U	57.7 U	131 B
Antimony	20	6	1.6 B	14 U	14 U	1.6 U	1.6 U
Arsenic	8	10	1.3 U	8 U	8 U	1.3 U	1.3 U
Barium	2000	2000	139 B	1000	1000	1140	1230
Beryllium	20	4	0.42 B	5 U	5 U	0.2 U	0.2 U
Cadmium	4	5	1.1 B	4 U	4 U	0.2 U	0.2 U
Calcium			157000	120	130	131000	145000
Calcium			157000	120	130	131000	145000
Chromium	100	100	0.6 U	6 U	6 U	1.4 B	2.4 B
Cobalt			60	8 U	8 U	0.4 U	0.44 B
Copper	1000	1300	201	10 U	10 U	0.99 B	2.7 B
Cyanide	200		NA	9.5 BR	NA	NA	38.2
Iron	300		80500 (A)	5000 (A)	4600 (A)	3590 (A)	3840 (A)
Lead	10	15	0.7 U	7 U	7 U	0.7 U	6.2
Magnesium			67600	14	14	12900	13900
Magnesium			67600	14	14	12900	13900
Manganese	50		4540 (A)	610 (A)	610 (A)	520 (A)	565 (A)
Mercury	2	2	0.1 U	0.05 U	0.05 U	0.1 U	0.1 UJ
Nickel	100		45.4	5 U	5 U	1.3 B	2.3 B
Potassium			45100 J	20	21	16600 J	18300 J
Potassium			45100 J	20	21	16600 J	18300 J
Selenium	50	50	2.9 U	7 U	15	2.9 U	2.9 UJ
Silver			1 B	6 U	6 U	0.7 U	0.7 U
Sodium	50		3060000 (A)	48	50 (A)	42100 (A)	47700 (A)
Sodium	50000		3060000 (A)	48	50	42100	47700
Thallium	10	2	12.9 (AB)	20 U	20 U	2.6 U	2.6 U
Vanadium			0.83 B	10 U	10 U	0.4 U	1.4 B
Zinc	5000		68.8	14	20	0.7 U	5.4 B

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Station ID	(A)	(B)	MA-MW-01M	MA-MW-01M	MA-MW-01M	MA-MW-01M	MA-MW-01S
Sample ID	GWQC	MCL	MA-MW-1M-R1	MA-MW-1M-R1	MA-MW-1M-R2	MA-MW-1M-R2	MA-MW-1S-R1
Sample Date			06/20/2002	06/20/2002	09/23/2002	09/23/2002	06/20/2002
Sample Interval			50 - 60 ft	50 - 60 ft	50 - 60 ft	50 - 60 ft	4 - 14 ft
CLP Sample ID			MB0KS2	MB0KW4	MB0MA2	MB0MA7-Dissolved	MB0KS4
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 U	200 U	72.8 B	57.7 U	240 (A)
Antimony	20	6	14 U	14 U	1.6 UJ	1.6 U	19 (B)
Arsenic	8	10	26 (AB)	20 (AB)	24.5 U (AB)	20.2 (AB)	3600 (AB)
Barium	2000	2000	130	92	135 B	92.4 B	690
Beryllium	20	4	5 U	5 U	0.2 U	0.2 U	5 U
Cadmium	4	5	4 U	4 U	3.3 B	0.2 U	4 U
Calcium			92	94	99300	88500	54
Calcium			92	94	99300	88500	54
Chromium	100	100	6 U	6 U	1.4 B	0.6 U	8.6
Cobalt			11	10	11.1 B	9.3 B	8 U
Copper	1000	1300	10 U	10 U	3.4 B	0.6 U	10 U
Cyanide	200		0.7 B	NA	1.6 B	NA	0.7 UJ
Iron	300		16000 (A)	16000 (A)	17800 (A)	15600 (A)	2200 (A)
Lead	10	15	7 U	7 U	0.72 B	0.7 U	7 U
Magnesium			26	26	27000	24600	220
Magnesium			26	26	27000	24600	220
Manganese	50		5.10 (A)	4.70 (A)	502 (A)	465 (A)	7.1 (A)
Mercury	2	2	0.06 U	0.06 U	0.1 U	0.1 U	0.06 U
Nickel	100		5 U	5 U	3.8 B	4.6 B	11
Potassium			25	26	25600 J	24500	15
Potassium			25	26	25600 J	24500	15
Selenium	50	50	7 U	14	2.9 BJ	2.9 U	7 U
Silver			6 U	6 U	0.7 U	0.7 U	6 U
Sodium	50		73 (A)	76 (A)	72900 (A)	67100 (A)	98 (A)
Sodium	50000		73	76	72900 (A)	67100 (A)	98
Thallium	10	2	20 U	20 U	2.6 U	2.6 U	20 U
Vanadium			10 U	10 U	0.4 U	0.4 U	10 U
Zinc	5000		31	8 U	18.4 B	8.6 B	1300

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Station ID	(A)	(B)	MA-MW-01S	MA-MW-01S	MA-MW-01S	MA-MW-20D	MA-MW-20D
Sample ID	GWQC	MCL	MA-MW-1S-R1	MA-MW-1S-R2	MA-MW-1S-R2	MA-MW-20D-R1	MA-MW-20D-R1
Sample Date			06/20/2002	09/23/2002	09/23/2002	06/13/2002	06/13/2002
Sample Interval			4 - 14 ft	4 - 14 ft	4 - 14 ft	123 - 133 ft	123 - 133 ft
CLP Sample ID			MB0KW5	MB0MA5	MB0MA6- Dissolved	MB0KX3	MB0L19
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 U	57.7 U	57.7 U	980 (A)	NA
Antimony	20	6	14 U	18.7 BJ (B)	2.9 B	14 U	NA
Arsenic	8	10	4700 (A5)	7130 J (AB)	3700 (AB)	8 U	NA
Barium	2000	2000	310	689 J	846 J	290	NA
Beryllium	20	4	5 U	0.2 U	0.2 U	619 (B)	NA
Cadmium	4	5	4 U	0.2 U	0.2 U	4 U	NA
Calcium			89	72400	58100	88	NA
Calcium			89	72400	58100	88	NA
Chromium	100	100	6 U	6.8 B	5.7 B	6 U	NA
Cobalt			8 U	2.2 B	0.4 U	110	NA
Copper	1000	1300	10 U	6.6 B	0.6 U	19	NA
Cyanide	200		NA	2.3 B	NA	NA	0.6 U*
Iron	300		4600 (A)	2200 (A)	1320 (A)	170000 (A)	NA
Lead	10	15	7 U	0.7 U	0.7 U	7 U	NA
Magnesium			140	221000 J	248000 J	39	NA
Magnesium			140	221000 J	248000 J	39	NA
Manganese	50		270 (A)	79.9 (A)	66.7 (A)	3900 (A)	NA
Mercury	2	2	0.06 U	0.1 U	0.1 U	0.5 U	NA
Nickel	100		6.2	8.8 B	5.1 B	94	NA
Potassium			18	14600 J	17600 J	14	NA
Potassium			18	14600 J	17600 J	14	NA
Selenium	50	50	24	3.3 BJ	2.9 U	7 U	NA
Silver			6 U	0.7 U	0.7 U	6 U	NA
Sodium	50		68 (A)	61500 J (A)	74300 J (A)	940 (A)	NA
Sodium	50000		68	61500 J (A)	74300 J (A)	940	NA
Thallium	10	2	20 U	2.6 U	2.6 U	20 U	NA
Vanadium			10 U	9.9 B	3.2 B	10 U	NA
Zinc	5000		25	566	9.9 B	290	NA

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Station ID	(A)	(B)	MA-MW-20D	MA-MW-20D	MA-MW-20D	MA-MW-20M	MA-MW-20M
Sample ID	GWQC	MCL	MA-MW-20D-R1	MA-MW-20D-R2	MA-MW-20D-R2	MA-MW-20M-R1	MA-MW-20M-R1
Sample Date			06/13/2002	09/20/2002	09/20/2002	06/13/2002	06/13/2002
Sample Interval			123 - 133 ft	123 - 133 ft	123 - 133 ft	42 - 52 ft	42 - 52 ft
CLP Sample ID			MB0M72	MB0MA8-Dissolved	MB0MB0	MB0KX4	MB0L20
Chemical Name							
Metals (ug/L)							
Aluminum	200		97.0 (A)	162 B	181 B	1200 (A)	NA
Antimony	20	6	14 U	3.4 B	2.9 B	14 U	NA
Arsenic	8	10	8 U	1.3 U	1.3 U	8 U	NA
Barium	2000	2000	300	285	294	150	NA
Beryllium	20	4	7.2 (B)	2.3 B	1.5 B	5 U	NA
Cadmium	4	5	4 U	0.2 U	0.2 U	4 U	NA
Calcium			88	75000	79300	85	NA
Calcium			88	75000	79300	85	NA
Chromium	100	100	6 U	0.6 U	2.1 B	6 U	NA
Cobalt			110	80.9	75.2 J	16	NA
Copper	1000	1300	10 U	3.7 B	244	12	NA
Cyanide	200		NA	NA	15.2	NA	0.6 U*
Iron	300		180000 (A)	153000 (A)	161000 (A)	23000 (A)	NA
Lead	10	15	7 U	0.7 U	0.7 U	7 U	NA
Magnesium			39	31800	33000	32	NA
Magnesium			39	31800	33000	32	NA
Manganese	50		4000 (A)	3280 (A)	3440 (A)	1200 (A)	NA
Mercury	2	2	0.05 U	0.1 U	0.1 UJ	0.05 U	NA
Nickel	100		97	59.7 J	51.9 J	8	NA
Potassium			15	20100 J	21900 J	20	NA
Potassium			15	20100 J	21900 J	20	NA
Selenium	50	50	7.2	3.9 B	2.9 UJ	7 U	NA
Silver			6 U	0.7 U	0.7 U	6 U	NA
Sodium	50		980 (A)	690000 (A)	690000 (A)	59 (A)	NA
Sodium	50000		980	690000 (A)	690000 (A)	59	NA
Thallium	10	2	20 U	15 J (AB)	12.5 J (AB)	20 U	NA
Vanadium			10 U	0.4 U	2.2 B	10 U	NA
Zinc	5000		280	233	215	170	NA

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Station ID	(A)	(B)	MA-MW-20M	MA-MW-20M	MA-MW-20M	MA-MW-20R	MA-MW-20R
Sample ID	GWQC	MCL	MA-MW-20M-R1	MA-MW-20M-R2	MA-MW-20M-R2	MA-MW-20R-R1	MA-MW-20R-R1
Sample Date			06/13/2002	09/20/2002	09/20/2002	06/13/2002	06/13/2002
Sample Interval			42 - 52 ft	42 - 52 ft	42 - 52 ft	113 - 123 ft	113 - 123 ft
CLP Sample ID			MB0M73	MB0MA9	MB0MB3-Dissolved	MB0KX5	MB0L21
Chemical Name							
Metals (ug/L)							
Aluminum	200		1900 (A)	1110 (A)	57.7 U	620 (A)	NA
Antimony	20	6	14 U	1.6 U	1.6 U	14 U	NA
Arsenic	8	10	8 U	3.8 B	1.3 U	8 U	NA
Barium	2000	2000	150	165 B	147 B	260	NA
Beryllium	20	4	5 U	0.37 B	0.2 U	5 U	NA
Cadmium	4	5	4 U	0.8 B	0.57 B	4 U	NA
Calcium			90	89800	89600	76	NA
Calcium			90	89800	89600	76	NA
Chromium	100	100	6 U	8.3 B	0.6 U	6 U	NA
Cobalt			17	16 B	14.5 B	96	NA
Copper	1000	1300	10 U	24.3 B	4.7 B	63	NA
Cyanide	200		NA	6.6 B	NA	NA	0.6 U*
Iron	300		23000 (A)	28000 (A)	22700 (A)	140000 (A)	NA
Lead	10	15	7 U	1.6 B	0.7 U	7 U	NA
Magnesium			34	32500	32500	32	NA
Magnesium			34	32500	32500	32	NA
Manganese	50		1200 (A)	1140 (A)	1110 (A)	3200 (A)	NA
Mercury	2	2	0.05 U	0.11 BJ	0.1 U	0.05 U	NA
Nickel	100		7.8	8.5 B	7.2 B	82	NA
Potassium			21	21300 J	21200 J	14	NA
Potassium			21	21300 J	21200 J	14	NA
Selenium	50	50	20	2.9 UJ	2.9 U	7 U	NA
Silver			6 U	0.7 U	0.7 U	6 U	NA
Sodium	50		64 (A)	60900 (A)	61300 (A)	670 (A)	NA
Sodium	50000		64	60900 (A)	61300 (A)	670	NA
Thallium	10	2	20 U	2.6 U	3.3 B (B)	20 U	NA
Vanadium			10 U	21.3 B	0.4 U	10 U	NA
Zinc	5000		150	177	129	270	NA

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Station ID	(A)	(B)	MA-MW-20R	MA-MW-20R	MA-MW-20R	MA-MW-20S	MA-MW-20S
Sample ID	GWQC	MCL	MA-MW-20R-R1	MA-MW-20R-R2	MA-MW-20R-R2	MA-MW-20S-R1	MA-MW-20S-R1
Sample Date			06/13/2002	09/20/2002	09/20/2002	06/13/2002	06/13/2002
Sample Interval			113 - 123 ft	113 - 123 ft	113 - 123 ft	7.9 - 17.9 ft	7.9 - 17.9 ft
CLP Sample ID			MB0M74	MB0MB1-Dissolved	MB0MB2	MB0KX1	MB0L22
Chemical Name							
Metals (ug/L)							
Aluminum	200		590 (A)	531 (A)	1080 (A)	4000 (A)	NA
Antimony	20	6	14 U	2.2 B	2.9 B	14 U	NA
Arsenic	8	10	8 U	1.3 U	1.3 U	8 U	NA
Barium	2000	2000	260	240	239	93	NA
Beryllium	20	4	5 U	5 B (B)	1.6 B	5 U	NA
Cadmium	4	5	4 U	0.2 U	0.21 B	4 U	NA
Calcium			76	71100	76900	97	NA
Calcium			76	71100	76900	97	NA
Chromium	100	100	6 U	0.6 U	3.2 B	10	NA
Cobalt			98	81.1 J	64.2 J	8 U	NA
Copper	1000	1300	61	80.8	.90	10 U	NA
Cyanide	200		NA	NA	1.5 U	NA	1.8 B*
Iron	300		140000 (A)	133000 J (A)	106000 J (A)	5400 (A)	NA
Lead	10	15	7 U	0.7 U	3.4	7 U	NA
Magnesium			33	29200	28300	22	NA
Magnesium			33	29200	28300	22	NA
Manganese	50		3300 (A)	2960 J (A)	2470 J (A)	51 (A)	NA
Mercury	2	2	0.05 U	0.1 U	0.14 BJ	0.05 U	NA
Nickel	100		82	64.6 J	51.8 J	10	NA
Potassium			14	16800 J	18000 J	9.1	NA
Potassium			14	16800 J	18000 J	9.1	NA
Selenium	50	50	7.3	3.7 B	4.7 BJ	17	NA
Silver			6 U	0.7 U	0.7 U	6 U	NA
Sodium	50		690 (A)	632000 J (A)	456000 J (A)	48	NA
Sodium	50000		690	632000 J (A)	456000 J (A)	48	NA
Thallium	10	2	20 U	8.8 B (B)	7.8 B (B)	20 U	NA
Vanadium			10 U	0.74 B	6.7 B	10 U	NA
Zinc	5000		260	179	181	30	NA

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Station ID	(A)	(B)	MA-MW-20S	MA-MW-20S	MA-MW-20S	MA-MW-21S	MA-MW-21S
Sample ID	GWQC	MCL	MA-MW-20S-R1	MA-MW-20S-R2	MA-MW-20S-R2	MA-MW-21S-R1	MA-MW-21S-R1
Sample Date			06/13/2002	09/20/2002	09/20/2002	06/12/2002	06/12/2002
Sample Interval			7.9 - 17.9 ft	7.9 - 17.9 ft	7.9 - 17.9 ft	10 - 21 ft	10 - 21 ft
CLP Sample ID			MB0M75	MB0MB4-Dissolved	MB0MB6	MB0KX0	MB0L17
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 U	57.7 U	33300 (A)	240 (A)	NA
Antimony	20	6	14 U	1.6 U	1.7 B	14 U	NA
Arsenic	8	10	8 U	1.3 U	20.9 J (AB)	20 (AB)	NA
Barium	2000	2000	79	82.5 B	263	150	NA
Beryllium	20	4	5 U	0.2 U	2.6 B	5 U	NA
Cadmium	4	5	4 U	0.2 U	0.2 U	4 U	NA
Calcium			100	98400	107000	130	NA
Calcium			100	98400	107000	130	NA
Chromium	100	100	6 U	1.3 B	84	6 U	NA
Cobalt			8 U	1.3 B	20.4 B	8 U	NA
Copper	1000	1300	10 U	1.3 B	41.3	10 U	NA
Cyanide	200		NA	NA	3 B	NA	0.6 U**
Iron	300		200 U	25.5 B	51900 (A)	700 (A)	NA
Lead	10	15	7 U	0.7 U	38.8 J (AB)	7 U	NA
Magnesium			22	19700	28800	19	NA
Magnesium			22	19700	28800	19	NA
Manganese	50		18	17	364 (A)	390 (A)	NA
Mercury	2	2	0.05 U	0.1 U	0.15 BJ	0.05 U	NA
Nickel	100		5 U	6.3 B	59	5 U	NA
Potassium			9.7	9420 J	12000 J	4.8	NA
Potassium			9.7	9420 J	12000 J	4.8	NA
Selenium	50	50	33	17.3	18.8 J	7 U	NA
Silver			6 U	0.7 U	0.7 U	6 U	NA
Sodium	50		51 (A)	50100 (A)	53700 (A)	77 (A)	NA
Sodium	50000		51	50100 (A)	53700 (A)	77	NA
Thallium	10	2	20 U	2.9 B (B)	2.6 U	20 U	NA
Vanadium			10 U	1.2 B	67.2	10 U	NA
Zinc	5000		8 U	0.7 U	165	9.5	NA

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05/26/2004
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Table G.11
Groundwater - Metals Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-21S	MA-MW-21S	MA-MW-21S	MA-MW-22S	MA-MW-22S
Sample ID	GWQC	MCL	MA-MW-21S-R1	MA-MW-21S-R2	MA-MW-21S-R2	MA-MW-22S-R1	MA-MW-22S-R1
Sample Date			06/12/2002	09/17/2002	09/17/2002	06/12/2002	06/12/2002
Sample Interval			10 - 21 ft	10 - 21 ft	10 - 21 ft	10 - 21 ft	10 - 21 ft
CLP Sample ID			MB0M76	MB0L24	MB0L29-Dissolved	MB0KX2	MB0L18
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 U	11400 (A)	57.7 U	36000 (A)	NA
Antimony	20	6	14 U	2.2 B	1.6 B	14 UJ	NA
Arsenic	8	10	17 (AB)	416 J (AB)	319 J (AB)	27 (AB)	NA
Barium	2000	2000	150	212	148 B	480	NA
Beryllium	20	4	5 U	1 B	0.2 U	5 U	NA
Cadmium	4	5	4 U	0.2 U	0.2 U	4 U	NA
Calcium			130	131000	131000	81	NA
Calcium			130	131000	131000	81	NA
Chromium	100	100	6 U	43.5	1.8 B	110 (AB)	NA
Cobalt			8 U	5.8 B	0.97 B	28	NA
Copper	1000	1300	10 U	17.3 B	1.8 B	140	NA
Cyanide	200		NA	11.6	NA	NA	0.6 U**
Iron	300		540 (A)	16200 (A)	1300 (A)	57000 (A)	NA
Lead	10	15	7 U	146 J (A)	0.7 U	630 (AB)	NA
Magnesium			19	25300	23700	27	NA
Magnesium			19	25300	23700	27	NA
Manganese	50		400 (A)	483 (A)	423 (A)	890 (A)	NA
Mercury	2	2	0.05 U	0.1 UJ	0.1 U	0.18	NA
Nickel	100		5 U	16.6 B	2.7 B	61	NA
Potassium			5.1	7180 J	5780 J	11	NA
Potassium			5.1	7180 J	5780 J	11	NA
Selenium	50	50	14	3.5 BJ	2.9 U	7 U	NA
Silver			6 U	0.7 U	0.7 U	6 U	NA
Sodium	50		81 (A)	68900 (A)	69100 (A)	37	NA
Sodium	50000		81	68900 (A)	69100 (A)	37	NA
Thallium	10	2	20 U	2.6 U	2.6 U	20 U	NA
Vanadium			10 U	35.8 B	0.97 B	87	NA
Zinc	5000		10	80.3	3.9 B	410	NA

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Table G.11
Groundwater - Metals Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-22S	MA-MW-22S	MA-MW-22S	MA-MW-04S	MA-MW-04S
Sample ID	GWQC	MCL	MA-MW-22S-R1	MA-MW-22S-R2	MA-MW-22S-R2	MA-MW-4S-R1	MA-MW-4S-R1
Sample Date			06/12/2002	09/17/2002	09/17/2002	06/12/2002	06/12/2002
Sample Interval			10 - 21 ft	10 - 21 ft	10 - 21 ft	4 - 14 ft	4 - 14 ft
CLP Sample ID			MB0M77	MB0L27	MB0L28-Dissolved	MB0KS3	MB0KW1
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 U	933 (A)	57.7 U	200 U	200 U
Antimony	20	6	14 U	1.6 U	1.6 U	14 U	14 U
Arsenic	8	10	8 U	1.3 U	1.3 U	9.6 (A)	8 U
Barium	2000	2000	75	94.9 B	94.7 B	260	250
Beryllium	20	4	5 U	0.2 U	0.2 U	5 U	5 U
Cadmium	4	5	4 U	0.2 U	0.2 U	4 U	4 U
Calcium			84	90800	82500	86	88
Calcium			84	90800	82500	86	88
Chromium	100	100	6 U	4 B	1.7 B	6 U	6 U
Cobalt			8 U	2 B	0.7 B	8 U	8 U
Copper	1000	1300	10 U	7.3 B	3.3 B	10 U	10 U
Cyanide	200		NA	5.6 B	NA	NA	NA
Iron	300		200 U	1400 (A)	406 (A)	12000 (A)	12000 (A)
Lead	10	15	7 U	11.2 J (A)	2.4 B	7 U	7 U
Magnesium			20	24000	20400	12	12
Magnesium			20	24000	20400	12	12
Manganese	50		230 (A)	218 (A)	196 (A)	170 (A)	170 (A)
Mercury	2	2	0.05 U	0.1 UJ	0.1 U	0.05 U	0.05 U
Nickel	100		5 U	4.4 B	2.9 B	5 U	5 U
Potassium			9.7	12600 J	10700 J	8.4	9
Potassium			9.7	12600 J	10700 J	8.4	9
Selenium	50	50	12 J	3 BJ	3.4 B	7 U	13
Silver			6 U	0.7 U	0.7 U	6 U	6 U
Sodium	50		42	52200 (A)	47100 (A)	4.5	4.9
Sodium	50000		42	52200 (A)	47100	4.5	4.9
Thallium	10	2	20 U	2.6 U	2.6 U	20 U	20 U
Vanadium			10 U	3.8 B	0.93 B	10 U	10 U
Zinc	5000		8 U	17.1 BJ	20.9 J	15	8 U

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Table G.11
Groundwater - Metals Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-04S	MA-MW-04S	MA-MW-04S	MA-MW-05S	MA-MW-05S
Sample ID	GWQC	MCL	MA-MW-4S-R1	MA-MW-4S-R2	MA-MW-4S-R2	MA-MW-5S-R1	MA-MW-5S-R1
Sample Date			06/12/2002	09/17/2002	09/17/2002	06/27/2002	06/27/2002
Sample Interval			4 - 14 ft	4 - 14 ft	4 - 14 ft	6 - 16 ft	6 - 16 ft
CLP Sample ID			MB0L16	MB0L30-Dissolved	MB0L32	MB0KS8	MB0KW2
Chemical Name							
Metals (ug/L)							
Aluminum	200		NA	57.7 U	115 B	210 (A)	200 U
Antimony	20	6	NA	1.6 U	1.6 U	14 U	14 U
Arsenic	8	10	NA	10.3 (AB)	12.6 (AB)	1200 (AB)	1000 (AB)
Barium	2000	2000	NA	228	235	460	490
Beryllium	20	4	NA	0.2 U	0.2 U	5 U	5 U
Cadmium	4	5	NA	0.2 U	0.2 U	4 U	4 U
Calcium			NA	77100	77800	59	67
Calcium			NA	77100	77800	59	67
Chromium	100	100	NA	2.8 B	3.2 B	21	18
Cobalt			NA	0.4 U	0.4 U	8 U	8 U
Copper	1000	1300	NA	3.3 B	4.5 B	10 U	10 U
Cyanide	200		1.8 B**	NA	2.5 B	0.7 UJ	NA
Iron	300		NA	7230 (A)	8950 (A)	4800 (A)	1600 (A)
Lead	10	15	NA	0.7 U	1.7 B	7 U	7 U
Magnesium			NA	12600	12700	240	220
Magnesium			NA	12600	12700	240	220
Manganese	50		NA	133 (A)	151 (A)	32	37
Mercury	2	2	NA	0.1 U	0.1 UJ	0.08	0.05 U
Nickel	100		NA	3.1 B	3 B	23	21
Potassium			NA	8230 J	8320 J	34	33
Potassium			NA	8230 J	8320 J	34	33
Selenium	50	50	NA	2.9 U	2.9 UJ	7 U	37
Silver			NA	0.7 U	0.7 U	6 U	6 U
Sodium	50000		NA	7470	7610	150	140
Sodium	50		NA	7470 (A)	7610 (A)	150 (A)	140 (A)
Thallium	10	2	NA	2.6 U	2.6 U	20 U	20 U
Vanadium			NA	1.2 B	1.6 B	10 U	10 U
Zinc	5000		NA	6.6 B	8.6 B	8 U	8 U

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05/26/2004
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Table G.11
Groundwater - Metals Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-05S	MA-MW-05S	MA-MW-05S	MA-MW-05S	MA-MW-08S
Sample ID	GWQC	MCL	MA-MW-5S-R1-D	MA-MW-5S-R1-D	MA-MW-5S-R2	MA-MW-5S-R2	MA-MW-8S-R1
Sample Date			06/27/2002	06/27/2002	09/25/2002	09/25/2002	06/12/2002
Sample Interval			6 - 16 ft	6 - 16 ft	6 - 16 ft	6 - 16 ft	4 - 14 ft
CLP Sample ID			MB0KS6	MB0KT8	MB0MB5	MB0MB9- Dissolved	MB0KR4
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 (A)	200 U	57.7 U	82.8 B	580 (A)
Antimony	20	6	14 U	14 U	2.5 BJ	4.6 B	14 U
Arsenic	8	10	1200 (AB)	1100 (AB)	943 J (AB)	938 (AB)	8 U
Barium	2000	2000	470	550	212	215	310
Beryllium	20	4	5 U	5 U	0.2 U	0.36 B	5 U
Cadmium	4	5	4 U	4 U	0.2 U	0.2 U	4 U
Calcium			60	71	43300	43200	150
Calcium			60	71	43300	43200	150
Chromium	100	100	21	18	19.7	19.4	8.2
Cobalt			8 U	8 U	1.7 B	1.2 B	8 U
Copper	1000	1300	10 U	10 U	2.2 B	0.6 U	14
Cyanide	200		0.7 UJ	NA	8.1 B	NA	NA
Iron	300		5400 (A)	1900 (A)	532 (A)	287	9300 (A)
Lead	10	15	7 U	7 U	0.7 U	0.7 U	7 U
Magnesium			240	220	266000	270000	20
Magnesium			240	220	266000	270000	20
Manganese	50		33	41	6.7 B	6.7 B	700 (A)
Mercury	2	2	0.05 U	0.05 U	0.1 U	0.1 U	0.05 U
Nickel	100		24	20	27 B	26.6 B	5 U
Potassium			34	33	45100 J	47300	9.4
Potassium			34	33	45100 J	47300	9.4
Selenium	50	50	7 U	33	3.7 BJ	2.9 U	7 U
Silver			6 U	6 U	0.7 U	0.7 U	6 U
Sodium	50000		150	160	167000 (A)	169000 (A)	19
Sodium	50		150 (A)	160 (A)	167000 (A)	169000 (A)	19
Thallium	10	2	20 U	20 U	2.6 U	2.6 U	20 U
Vanadium			10 U	10 U	0.5 B	0.73 B	10 U
Zinc	5000		8 U	8 U	0.7 U	0.7 U	47

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05/26/2004
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Table G.11
Groundwater - Metals Results
Martin Aaron Superfund Site
Camden, NJ

Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-08S	MA-MW-08S	MA-MW-08S	MA-MW-08S	MA-MW-09D
Sample ID	GWQC	MCL	MA-MW-8S-R1	MA-MW-8S-R1	MA-MW-8S-R2	MA-MW-8S-R2	MA-MW-9D-R1
Sample Date			06/12/2002	06/12/2002	09/17/2002	09/17/2002	06/19/2002
Sample Interval			4 - 14 ft	4 - 14 ft	4 - 14 ft	4 - 14 ft	44 - 54 ft
CLP Sample ID			MB0KW0	MB0L15	MB0L31-Dissolved	MB0L35	MB0KR5
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 U	NA	57.7 U	144 B	200 U
Antimony	20	6	14 U	NA	1.6 U	1.6 U	14 U
Arsenic	8	10	8 U	NA	5.8 B	6.1 B	8 U
Barium	2000	2000	340	NA	431	409	79
Beryllium	20	4	5 U	NA	0.2 U	0.2 U	5 U
Cadmium	4	5	4 U	NA	0.2 U	0.2 U	4 U
Calcium			170	NA	206000	187000	66
Calcium			170	NA	206000	187000	66
Chromium	100	100	6.7	NA	8.2 B	7.6 B	6 U
Cobalt			8 U	NA	0.61 B	0.4 U	42
Copper	1000	1300	10 U	NA	1.5 B	10.9 B	10 U
Cyanide	200		NA	0.6 U**	NA	6.6 B	0.7 U
Iron	300		13000 (A)	NA	17400 (A)	17300 (A)	12000 (A)
Lead	10	15	7 U	NA	0.7 U	3.7	7 U
Magnesium			24	NA	26200	25900	33
Magnesium			24	NA	26200	25900	33
Manganese	50		790 (A)	NA	759 J (A)	653 J (A)	1500 (A)
Mercury	2	2	0.05 U	NA	0.1 U	0.1 UJ	0.06 U
Nickel	100		5 U	NA	2 B	2.4 B	9.9
Potassium			11	NA	10800 J	11500 J	21
Potassium			11	NA	10800 J	11500 J	21
Selenium	50	50	21	NA	2.9 U	2.9 UJ	7 U
Silver			6 U	NA	0.7 U	0.7 U	6 U
Sodium	50		20	NA	25300 (A)	29800 (A)	56 (A)
Sodium	50000		20	NA	25300	29800	56
Thallium	10	2	20 U	NA	2.6 U	2.6 U	20 U
Vanadium			10 U	NA	4 B	3.2 B	10 U
Zinc	5000		8 U	NA	3.3 B	12.5 B	300

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Table G.11
Groundwater - Metals Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-09D	MA-MW-09D	MA-MW-09D	MA-MW-09S	MA-MW-09S
Sample ID	GWQC	MCL	MA-MW-9D-R1	MA-MW-9D-R2	MA-MW-9D-R2	MA-MW-9S-R1	MA-MW-9S-R1
Sample Date			06/19/2002	09/19/2002	09/19/2002	06/19/2002	06/19/2002
Sample Interval			44 - 54 ft	44 - 54 ft	44 - 54 ft	16 - 26 ft	16 - 26 ft
CLP Sample ID			MB0KW3	MB0MB7	MB0MB8-Dissolved	MB0KR1	MB0KT5
Chemical Name							
Metals (ug/L)							
Aluminum	200		200 U	137 B	57.7 U	670 J (A)	200 U
Antimony	20	6	14 U	2.5 B	1.6 U	14 U	14 U
Arsenic	8	10	8 U	1.3 U	1.3 U	8 U	8 U
Barium	2000	2000	79	76 B	69.3 B	150	110
Beryllium	20	4	5 U	0.2 U	0.2 U	5 U	5 U
Cadmium	4	5	4 U	2.7 B	0.95 B	4 U	4 U
Calcium			67	67500	64100	76	84
Calcium			67	67500	64100	76	84
Chromium	100	100	6 U	1.4 B	0.64 B	6 U	6 U
Cobalt			41	47.6 B	43.6 B	15	10
Copper	1000	1300	10 U	22.3 B	3.3 B	13	10 U
Cyanide	200		NA	1.5 U	NA	1.6 B	NA
Iron	300		11000 (A)	10100 (A)	10200 (A)	1200 (A)	200 U
Lead	10	15	7 U	7.5 J	0.7 U	7 U	7 U
Magnesium			32	32600	30700	26	27
Magnesium			32	32600	30700	26	27
Manganese	50		1500 (A)	1610 (A)	1470 (A)	400 (A)	380 (A)
Mercury	2	2	0.06 U	0.27 J	0.1 U	0.06 U	0.06 U
Nickel	100		9.2	11.5 B	11 B	26	23
Potassium			22	18600 J	18100 J	12	13
Potassium			22	18600 J	18100 J	12	13
Selenium	50	50	14	2.9 UJ	2.9 U	13	29
Silver			6 U	0.7 U	0.7 U	6 U	6 U
Sodium	50		58 (A)	53500 (A)	50400 (A)	80 (A)	81 (A)
Sodium	50000		58	53500 (A)	50400 (A)	80	81
Thallium	10	2	20 U	2.8 B (B)	4.7 B (B)	20 U	20 U
Vanadium			10 U	0.61 B	0.4 U	10 U	10 U
Zinc	5000		280	335	293	610	630

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Table G.11
Groundwater - Metals Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-09S	MA-MW-09S
Sample ID	GWQC	MCL	MA-MW-9S-R2	MA-MW-9S-R2
Sample Date			09/19/2002	09/19/2002
Sample Interval			16 - 26 ft	16 - 26 ft
CLP Sample ID			MB0L25-Dissolved	MB0L26
Chemical Name				
Metals (ug/L)				
Aluminum	200		57.7 U	317 (A)
Antimony	20	6	1.6 U	1.6 U
Arsenic	8	10	1.3 U	3.9 B
Barium	2000	2000	141 B	186 B
Beryllium	20	4	0.2 U	0.2 U
Cadmium	4	5	3.3 B	6.8 (AB)
Calcium			67200	75800
Calcium			67200	75800
Chromium	100	100	1.9 B	3.7 B
Cobalt			7.2 B	12.3 B
Copper	1000	1300	16.6 B	13.1 B
Cyanide	200		NA	NA
Iron	300		8.7 U	1120 (A)
Lead	10	15	0.7 U	5.1
Magnesium			41500 J	29300 J
Magnesium			41500 J	29300 J
Manganese	50		715 J (A)	509 J (A)
Mercury	2	2	0.1 U	0.1 UJ
Nickel	100		29.5 B	24.1 B
Potassium			11900 J	12100 J
Potassium			11900 J	12100 J
Selenium	50	50	4.3 B	7 J
Silver			0.7 U	0.7 U
Sodium	50		101000 J (A)	69500 J (A)
Sodium	50000		101000 J (A)	69500 J (A)
Thallium	10	2	2.8 B (B)	2.6 U
Vanadium			0.4 U	1.1 B
Zinc	5000		567	739

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Table G.12
Groundwater - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-10S	MA-MW-10S	MA-MW-11M	MA-MW-11M	MA-MW-11S
Sample ID	GWQC	MCL	MA-MW-10S-R1	MA-MW-10S-R2	MA-MW-11M-R1	MA-MW-11M-R2	MA-MW-11S-R1
Sample Date			06/19/2002	09/19/2002	06/20/2002	09/23/2002	06/20/2002
Sample Interval			8 - 18 ft	8 - 18 ft	46 - 56 ft	46 - 56 ft	11 - 21 ft
CLP Sample ID			B0KZ3	B0QB2	B0KZ6	B0QB3	B0KZ5
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, alpha	0.02		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, beta	0.2		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, delta			0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - alpha		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 UJ
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 UJ
DDD-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ
DDE-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ
DDT-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ
Dieldrin	0.03		0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 U	0.01 U	0.01 UJ
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ
Endrin	2	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ
Endrin ketone		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 UJ
Heptachlor	0.4	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 UJ
Methoxychlor	40	40	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ
Pcb-araclor 1016		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ
Pcb-araclor 1221		0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 UJ
Pcb-araclor 1232		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ
Pcb-araclor 1242		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ
Pcb-araclor 1248		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ
Pcb-araclor 1254		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ
Pcb-araclor 1260		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ
Toxaphene	3	3	1 U	1 U	1 U	1 U	1 UJ

J - Reported value estimated in quantity
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U - Analyte not detected above reporting limit
(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.12
Groundwater - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-11S	MA-MW-12M	MA-MW-12M	MA-MW-12S	MA-MW-12S
Sample ID	GWQC	MCL	MA-MW-11S-R2	MA-MW-12M-R1	MA-MW-12M-R2	MA-MW-12S-R1	MA-MW-12S-R2
Sample Date			09/23/2002	06/18/2002	09/24/2002	06/18/2002	09/24/2002
Sample Interval			11 - 21 ft	38.1 - 48.1 ft	38.1 - 48.1 ft	5.4 - 15.4 ft	5.4 - 15.4 ft
CLP Sample ID			B0QB7	B0KY5	B0QB6	B0KX9	B0QB5
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 U	0.01 U	0.01 U	0.013 R	0.01 U
BHC, alpha	0.02		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, beta	0.2		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, delta			0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - alpha		2	0.01 U	0.01 U	0.01 U	0.082 J	0.01 U
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U	0.01 U	0.062	0.01 U
DDD-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDE-4,4	0.1		0.02 U	0.02 U	0.02 U	0.039 J	0.02 U
DDT-4,4	0.1		0.02 U	0.02 U	0.02 U	0.022 NJ	0.02 U
Dieldrin	0.03		0.02 U	0.02 U	0.02 U	0.099 J (A)	0.02 U
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	2	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.4	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Methoxychlor	40	40	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Pcb-araclo 1016		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclo 1221		0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Pcb-araclo 1232		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclo 1242		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclo 1248		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclo 1254		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclo 1260		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toxaphene	3	3	1 U	1 U	1 U	1 U	1 U

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Table G.12
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Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13M	MA-MW-13S
Sample ID	GWQC	MCL	MA-MW-13M-R1	MA-MW-13M-R1-D	MA-MW-13M-R2	MA-MW-13M-R2-D	MA-MW-13S-R1
Sample Date			06/27/2002	06/27/2002	09/25/2002	09/25/2002	06/28/2002
Sample Interval			48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	6.6 - 16.6 ft
CLP Sample ID			B0KY1	B0KX7	B0QC0	B0QB0	B0KX8
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 U	0.01 U	0.01 U	0.01 U	0.01 R
BHC, alpha	0.02		0.01 U	0.01 U	0.01 U	0.01 U	0.01 R
BHC, beta	0.2		0.01 U	0.01 U	0.01 U	0.01 U	0.01 R
BHC, delta			0.01 U	0.01 U	0.01 U	0.01 U	0.01 R
BHC, gamma (Lindane)	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 R
Chlordane - alpha		2	0.01 U	0.01 U	0.01 U	0.01 U	0.026 NJ
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
DDD-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDE-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.028 NJ
DDT-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dieldrin	0.03		0.02 U	0.02 U	0.02 U	0.02 U	0.032 NJ (A)
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	2	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.4	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 R
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.055 J
Methoxychlor	40	40	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Pcb-araclor 1016		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1221		0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Pcb-araclor 1232		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1242		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1248		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1254		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1260		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toxaphene	3	3	1 U	1 U	1 U	1 U	1 U

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Table G.12
Groundwater - PCB and Pesticide Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-13S	MA-MW-14D	MA-MW-14D	MA-MW-14R	MA-MW-14R
Sample ID	GWQC	MCL	MA-MW-13S-R2	MA-MW-14D-R1	MA-MW-14D-R2	MA-MW-14R-R1	MA-MW-14R-R2
Sample Date			09/25/2002	06/18/2002	09/24/2002	06/18/2002	09/24/2002
Sample Interval			6.6 - 16.6 ft	170 - 188 ft	170 - 188 ft	109.5 - 119.5 ft	109.5 - 119.5 ft
CLP Sample ID			B0QB8	B0KY2	B0QB9	B0KY0	B0QC3
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U
BHC, alpha	0.02		0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U
BHC, beta	0.2		0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U
BHC, delta			0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - alpha		2	0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - gamma (technical mixture)		2	0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U
DDD-4,4	0.1		0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
DDE-4,4	0.1		0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
DDT-4,4	0.1		0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
Dieldrin	0.03		0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan I (alpha)	0.4		0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II (beta)	0.4		0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	0.4		0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	2	2	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde		2	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone		2	0.02 UJ	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.4	0.4	0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 UJ	0.01 U	0.01 U	0.01 U	0.01 U
Methoxychlor	40	40	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Pcb-araclor 1016		0.5	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1221		0.5	0.4 UJ	0.4 U	0.4 U	0.4 U	0.4 U
Pcb-araclor 1232		0.5	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1242		0.5	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1248		0.5	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1254		0.5	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1260		0.5	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U
Toxaphene	3	3	1 UJ	1 U	1 U	1 U	1 U

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05/26/2004
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Table G.12
Groundwater - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-14S	MA-MW-14S	MA-MW-14S	MA-MW-15M	MA-MW-15M
Sample ID	GWQC	MCL	MA-MW-14S-R1	MA-MW-14S-R2	MA-MW-14S-R2-D	MA-MW-15M-R1	MA-MW-15M-R2
Sample Date			06/18/2002	09/24/2002	09/24/2002	06/19/2002	09/23/2002
Sample Interval			7 - 20 ft	7 - 20 ft	7 - 20 ft	59.4 - 69.4 ft	59.4 - 69.4 ft
CLP Sample ID			B0KY4	B0QC1	B0QA9	B0KY8	B0N57
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, alpha	0.02		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, beta	0.2		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, delta			0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - alpha		2	0.15	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - gamma (technical mixture)		2	0.091 J	0.01 U	0.01 U	0.01 U	0.01 U
DDD-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDE-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDT-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dieldrin	0.03		0.057 J (A)	0.02 U	0.064 NJ (A)	0.02 U	0.02 U
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	2	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.4	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Methoxychlor	40	40	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Pcb-araclor 1016		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1221		0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Pcb-araclor 1232		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1242		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1248		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1254		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1260		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toxaphene	3	3	1 U	1 U	1 U	1 U	1 U

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Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-15S	MA-MW-15S	MA-MW-16S	MA-MW-16S	MA-MW-17M
Sample ID	GWQC	MCL	MA-MW-15S-R1	MA-MW-15S-R2	MA-MW-16S-R1	MA-MW-16S-R2	MA-MW-17M-R1
Sample Date			06/19/2002	09/25/2002	06/27/2002	09/25/2002	06/14/2002
Sample Interval			6.8 - 16.8 ft	6.8 - 16.8 ft	6.5 - 16.5 ft	6.5 - 16.5 ft	41.82 - 51.82 ft
CLP Sample ID			B0KZ0	B0QE1	B0L33	B0QD7	B0L34
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 U	0.01 U	0.01 R	0.01 UJ	0.01 U
BHC, alpha	0.02		0.01 U	0.01 U	0.01 R	0.01 UJ	0.01 U
BHC, beta	0.2		0.013 R	0.01 U	0.01 R	0.01 UJ	0.01 U
BHC, delta			0.014 J	0.01 U	0.01 R	0.01 UJ	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.03 NJ	0.01 U	0.01 R	0.01 UJ	0.01 U
Chlordane - alpha		2	0.01 U	0.01 U	0.01 UJ	0.01 UJ	0.01 U
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U	0.01 UJ	0.01 UJ	0.01 U
DDD-4,4	0.1		0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U
DDE-4,4	0.1		0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U
DDT-4,4	0.1		0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U
Dieldrin	0.03		0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 UJ	0.01 UJ	0.01 U
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U
Endrin	2	2	0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U
Endrin ketone		2	0.02 U	0.02 U	0.02 UJ	0.02 UJ	0.02 U
Heptachlor	0.4	0.4	0.01 U	0.01 U	0.044 R	0.01 UJ	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 UJ	0.01 UJ	0.01 U
Methoxychlor	40	40	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 U
Pcb-aracior 1016		0.5	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
Pcb-aracior 1221		0.5	0.4 U	0.4 U	0.4 UJ	0.4 UJ	0.4 U
Pcb-aracior 1232		0.5	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
Pcb-aracior 1242		0.5	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
Pcb-aracior 1248		0.5	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
Pcb-aracior 1254		0.5	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
Pcb-aracior 1260		0.5	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
Toxaphene	3	3	1 U	1 U	1 UJ	1 UJ	1 U

J - Reported value estimated in quantity
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R - Rejected result

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Exceedances highlighted

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Table G.12
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Station ID	(A)	(B)	MA-MW-17M	MA-MW-17S	MA-MW-17S	MA-MW-18D	MA-MW-18D
Sample ID	GWQC	MCL	MA-MW-17M-R2	MA-MW-17S-R1	MA-MW-17S-R2	MA-MW-18D-R1	MA-MW-18D-R2
Sample Date			09/18/2002	06/14/2002	09/18/2002	06/17/2002	09/18/2002
Sample Interval			41.82 - 51.82 ft	8 - 18 ft	8 - 18 ft	140 - 152 ft	140 - 152 ft
CLP Sample ID			B0QE0	B0L35	B0QD9	B0L30	B0N52
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, alpha	0.02		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, beta	0.2		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, delta			0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - alpha		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
DDD-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDE-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDT-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dieldrin	0.03		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	2	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.4	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Methoxychlor	40	40	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Pcb-araclor 1016		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1221		0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Pcb-araclor 1232		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1242		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1248		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1254		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1260		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toxaphene	3	3	1 U	1 U	1 U	1 U	1 U

J - Reported value estimated in quantity
N - Quality control sample spike recovery for this
analyte was outside specified limits
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Station ID	(A)	(B)	MA-MW-18M	MA-MW-18M	MA-MW-18S	MA-MW-18S	MA-MW-19M
Sample ID	GWQC	MCL	MA-MW-18M-R1	MA-MW-18M-R2	MA-MW-18S-R1	MA-MW-18S-R2	MA-MW-19M-R1
Sample Date			06/17/2002	09/18/2002	06/17/2002	09/18/2002	06/17/2002
Sample Interval			31.77 - 41.77 ft	31.77 - 41.77 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	42 - 52 ft
CLP Sample ID			B0L31	B0N54	B0L32	B0N53	B0L28
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, alpha	0.02		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, beta	0.2		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, delta			0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - alpha		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
DDD-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDE-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDT-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.028 R
Dieldrin	0.03		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	2	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.4	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Methoxychlor	40	40	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Pcb-araclor 1016		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1221		0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Pcb-araclor 1232		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1242		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1248		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1254		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1260		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toxaphene	3	3	1 U	1 U	1 U	1 U	1 U

J - Reported value estimated in quantity

N - Quality control sample spike recovery for this analyte was outside specified limits

R - Rejected result

U - Analyte not detected above reporting limit

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Exceedances highlighted

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Station ID	(A)	(B)	MA-MW-19M	MA-MW-19R	MA-MW-19R	MA-MW-19S	MA-MW-19S
Sample ID	GWQC	MCL	MA-MW-19M-R2	MA-MW-19R-R1	MA-MW-19R-R2	MA-MW-19S-R1	MA-MW-19S-R2
Sample Date			09/19/2002	06/17/2002	09/19/2002	06/17/2002	09/19/2002
Sample Interval			42 - 52 ft	103 - 113 ft	103 - 113 ft	5.05 - 15.05 ft	5.05 - 15.05 ft
CLP Sample ID			B0N55	B0L27	B0N56	B0L29	B0N60
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, alpha	0.02		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, beta	0.2		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, delta			0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - alpha		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
DDD-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDE-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDT-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dieldrin	0.03		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	2	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.4	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Methoxychlor	40	40	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Pcb-araclor 1016		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1221		0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Pcb-araclor 1232		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1242		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1248		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1254		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1260		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toxaphene	3	3	1 U	1 U	1 U	1 U	1 U

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Station ID	(A)	(B)	MA-MW-01M	MA-MW-01M	MA-MW-01S	MA-MW-01S	MA-MW-20D
Sample ID	GWQC	MCL	MA-MW-1M-R1	MA-MW-1M-R2	MA-MW-1S-R1	MA-MW-1S-R2	MA-MW-20D-R1
Sample Date			06/20/2002	09/23/2002	06/20/2002	09/23/2002	06/13/2002
Sample Interval			50 - 60 ft	50 - 60 ft	4 - 14 ft	4 - 14 ft	123 - 133 ft
CLP Sample ID			B0KZ2	B0N59	B0KZ4	B0N58	B0L25
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 U	0.01 U	0.01 UJ	0.01 U	0.01 U
BHC, alpha	0.02		0.01 U	0.01 U	0.01 UJ	0.01 U	0.01 U
BHC, beta	0.2		0.01 U	0.01 U	0.01 UJ	0.01 U	0.01 U
BHC, delta			0.01 U	0.01 U	0.01 UJ	0.01 U	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.01 U	0.01 U	0.01 UJ	0.01 U	0.01 U
Chlordane - alpha		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
DDD-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDE-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDT-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dieldrin	0.03		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	2	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.4	0.4	0.01 U	0.01 U	0.01 UJ	0.01 U	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Methoxychlor	40	40	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Pcb-araclor 1016		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1221		0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Pcb-araclor 1232		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1242		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1248		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1254		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1260		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toxaphene	3	3	1 U	1 U	1 U	1 U	1 U

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Station ID	(A)	(B)	MA-MW-20D	MA-MW-20M	MA-MW-20M	MA-MW-20R	MA-MW-20R
Sample ID	GWQC	MCL	MA-MW-20D-R2	MA-MW-20M-R1	MA-MW-20M-R2	MA-MW-20R-R1	MA-MW-20R-R2
Sample Date			09/20/2002	06/13/2002	09/20/2002	06/13/2002	09/20/2002
Sample Interval			123 - 133 ft	42 - 52 ft	42 - 52 ft	113 - 123 ft	113 - 123 ft
CLP Sample ID			B0N63	B0L24	B0N61	B0L26	B0N62
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, alpha	0.02		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, beta	0.2		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, delta			0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - alpha		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
DDD-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDE-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDT-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dieldrin	0.03		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	2	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.4	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Methoxychlor	40	40	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Pcb-araclor 1016		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1221		0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Pcb-araclor 1232		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1242		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1248		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1254		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1260		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toxaphene	3	3	1 U	1 U	1 U	1 U	1 U

J - Reported value estimated in quantity
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Station ID	(A)	(B)	MA-MW-20S	MA-MW-20S	MA-MW-21S	MA-MW-21S	MA-MW-22S
Sample ID	GWQC	MCL	MA-MW-20S-R1	MA-MW-20S-R2	MA-MW-21S-R1	MA-MW-21S-R2	MA-MW-22S-R1
Sample Date			06/13/2002	09/20/2002	06/12/2002	09/17/2002	06/12/2002
Sample Interval			7.9 - 17.9 ft	7.9 - 17.9 ft	10 - 21 ft	10 - 21 ft	10 - 21 ft
CLP Sample ID			B0L22	B0N66	B0L21	B0N68	B0L23
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, alpha	0.02		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, beta	0.2		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, delta			0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - alpha		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
DDD-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDE-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDT-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dieldrin	0.03		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	2	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.4	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Methoxychlor	40	40	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Pcb-araclor 1016		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1221		0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Pcb-araclor 1232		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1242		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1248		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1254		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1260		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toxaphene	3	3	1 U	1 U	1 U	1 U	1 U

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U - Analyte not detected above reporting limit
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Exceedances highlighted

05/26/2004
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Table G.12
Groundwater - PCB and Pesticide Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-22S	MA-MW-04S	MA-MW-04S	MA-MW-05S	MA-MW-05S
Sample ID	GWQC	MCL	MA-MW-22S-R2	MA-MW-4S-R1	MA-MW-4S-R2	MA-MW-5S-R1	MA-MW-5S-R1-D
Sample Date			09/17/2002	06/12/2002	09/17/2002	06/27/2002	06/27/2002
Sample Interval			10 - 21 ft	4 - 14 ft	4 - 14 ft	6 - 16 ft	6 - 16 ft
CLP Sample ID			B0N67	B0KZ9	B0N72	B0KZ7	B0KZ8
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 U	0.01 U	0.01 U	0.01 R	0.01 R
BHC, alpha	0.02		0.01 U	0.01 U	0.01 U	0.01 R	0.01 R
BHC, beta	0.2		0.01 U	0.01 U	0.01 U	0.01 R	0.01 R
BHC, delta			0.01 U	0.01 U	0.01 U	0.01 R	0.01 R
BHC, gamma (Lindane)	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 R	0.01 R
Chlordane - alpha		2	0.01 U	0.01 U	0.01 U	0.01 R	0.01 R
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U	0.01 U	0.01 R	0.01 R
DDD-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 R	0.02 R
DDE-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 R	0.02 R
DDT-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 R	0.02 R
Dieldrin	0.03		0.02 U	0.02 U	0.02 U	0.02 R	0.02 R
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 U	0.01 R	0.01 R
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 U	0.02 R	0.02 R
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 U	0.02 R	0.02 R
Endrin	2	2	0.02 U	0.02 U	0.02 U	0.02 R	0.02 R
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 U	0.02 R	0.02 R
Endrin ketone		2	0.02 U	0.02 U	0.02 U	0.02 R	0.02 R
Heptachlor	0.4	0.4	0.01 U	0.01 U	0.01 U	0.01 R	0.01 R
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 R	0.01 R
Methoxychlor	40	40	0.1 U	0.1 U	0.1 U	0.1 R	0.1 R
Pcb-araclor 1016		0.5	0.2 U	0.2 U	0.2 U	0.2 R	0.2 R
Pcb-araclor 1221		0.5	0.4 U	0.4 U	0.4 U	0.4 R	0.4 R
Pcb-araclor 1232		0.5	0.2 U	0.2 U	0.2 U	0.2 R	0.2 R
Pcb-araclor 1242		0.5	0.2 U	0.2 U	0.2 U	0.2 R	0.2 R
Pcb-araclor 1248		0.5	0.2 U	0.2 U	0.2 U	0.2 R	0.2 R
Pcb-araclor 1254		0.5	0.2 U	0.2 U	0.2 U	0.2 R	0.2 R
Pcb-araclor 1260		0.5	0.2 U	0.2 U	0.2 U	0.2 R	0.2 R
Toxaphene	3	3	1 U	1 U	1 U	1 R	1 R

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Table G.12
Groundwater - PCB and Pesticide Results
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Station ID	(A)	(B)	MA-MW-05S	MA-MW-08S	MA-MW-08S	MA-MW-09D	MA-MW-09D
Sample ID	GWQC	MCL	MA-MW-5S-R2	MA-MW-8S-R1	MA-MW-8S-R2	MA-MW-9D-R1	MA-MW-9D-R2
Sample Date			09/25/2002	06/12/2002	09/17/2002	06/19/2002	09/19/2002
Sample Interval			6 - 16 ft	4 - 14 ft	4 - 14 ft	44 - 54 ft	44 - 54 ft
CLP Sample ID			B0N64	B0KY7	B0N70	B0KY6	B0N65
Chemical Name							
Pesticides and PCBs (ug/L)							
Aldrin	0.04		0.01 R	0.01 U	0.01 U	0.01 U	0.01 U
BHC, alpha	0.02		0.01 R	0.01 U	0.01 U	0.01 U	0.01 U
BHC, beta	0.2		0.01 R	0.01 U	0.01 U	0.01 U	0.01 U
BHC, delta			0.01 R	0.01 U	0.01 U	0.01 U	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.01 R	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - alpha		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
DDD-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDE-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
DDT-4,4	0.1		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dieldrin	0.03		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan I (alpha)	0.4		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Endosulfan II (beta)	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endosulfan Sulfate	0.4		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin	2	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin Aldehyde		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Endrin ketone		2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Heptachlor	0.4	0.4	0.01 R	0.01 U	0.01 U	0.01 U	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Methoxychlor	40	40	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Pcb-araclor 1016		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1221		0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Pcb-araclor 1232		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1242		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1248		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1254		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pcb-araclor 1260		0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toxaphene	3	3	1 U	1 U	1 U	1 U	1 U

J - Reported value estimated in quantity

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Table G.12
Groundwater - PCB and Pesticide Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-09S	MA-MW-09S
Sample ID	GWQC	MCL	MA-MW-9S-R1	MA-MW-9S-R2
Sample Date			06/19/2002	09/19/2002
Sample Interval			16 - 26 ft	16 - 26 ft
CLP Sample ID			B0KX6	B0N69
Chemical Name				
Pesticides and PCBs (ug/L)				
Aldrin	0.04		0.01 U	0.01 U
BHC, alpha	0.02		0.01 U	0.01 U
BHC, beta	0.2		0.01 U	0.01 U
BHC, delta			0.01 U	0.01 U
BHC, gamma (Lindane)	0.2	0.2	0.01 U	0.01 U
Chlordane - alpha		2	0.01 U	0.01 U
Chlordane - gamma (technical mixture)		2	0.01 U	0.01 U
DDD-4,4	0.1		0.02 U	0.02 U
DDE-4,4	0.1		0.02 U	0.02 U
DDT-4,4	0.1		0.02 U	0.02 U
Dieldrin	0.03		0.02 U	0.02 U
Endosulfan I (alpha)	0.4		0.01 U	0.01 U
Endosulfan II (beta)	0.4		0.02 U	0.02 U
Endosulfan Sulfate	0.4		0.02 U	0.02 U
Endrin	2	2	0.02 U	0.02 U
Endrin Aldehyde		2	0.02 U	0.02 U
Endrin ketone		2	0.02 U	0.02 U
Heptachlor	0.4	0.4	0.01 U	0.01 U
Heptachlor Epoxide	0.2	0.2	0.01 U	0.01 U
Methoxychlor	40	40	0.1 U	0.1 U
Pcb-araclor 1016		0.5	0.2 U	0.2 U
Pcb-araclor 1221		0.5	0.4 U	0.4 U
Pcb-araclor 1232		0.5	0.2 U	0.2 U
Pcb-araclor 1242		0.5	0.2 U	0.2 U
Pcb-araclor 1248		0.5	0.2 U	0.2 U
Pcb-araclor 1254		0.5	0.2 U	0.2 U
Pcb-araclor 1260		0.5	0.2 U	0.2 U
Toxaphene	3	3	1 U	1 U

J - Reported value estimated in quantity
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Table G.13
Groundwater - Compounds Analyzed and Camden City Well 7
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	CW-07	CW-07	CW-07	CW-07
Sample ID	GWQC	MCL	MA-CW07-070202	MA-CW07-070202	MA-CW07-092402	MA-CW07-092402
Sample Date			07/02/2002	07/02/2002	09/24/2002	09/24/2002
Sample Interval			N/A	N/A	N/A	N/A
CLP Sample ID			B0KZ1	MB0KR7	B0N71	MB0L34
Chemical Name						
Metals (ug/L)						
Aluminum	200		NA	59 B	NA	57.7 U
Antimony	20	6	NA	1.6 U	NA	1.6 UJ
Arsenic	8	10	NA	4.2 U	NA	2.3 BJ
Barium	2000	2000	NA	15.7 B	NA	16.6 B
Beryllium	20	4	NA	0.24 B	NA	0.2 U
Cadmium	4	5	NA	0.3 U	NA	0.2 U
Calcium			NA	25000	NA	26500
Chromium	100	100	NA	0.5 U	NA	0.6 U
Cobalt			NA	2.2 B	NA	2 B
Copper	1000	1300	NA	10.1 B	NA	18.8 B
Cyanide	200		NA	0.6 U	NA	1.5 U
Iron	300		NA	16900 (A)	NA	16500 (A)
Lead	10	15	NA	1.3 U	NA	1.7 B
Magnesium			NA	10600	NA	11800
Manganese	50		NA	332 (A)	NA	352 (A)
Mercury	2	2	NA	0.1 U	NA	0.1 U
Nickel	100		NA	8.3 B	NA	8.8 B
Potassium			NA	4600 B	NA	4200 B
Selenium	50	50	NA	2.2 U	NA	2.9 UJ
Silver			NA	0.7 U	NA	0.7 U
Sodium	50000		NA	27600	NA	29000
Thallium	10	2	NA	3.3 U	NA	2.6 U
Vanadium			NA	1.2 B	NA	1 B
Zinc	5000		NA	14.1 B	NA	22.6
Pesticides and PCBs (ug/L)						
Aldrin	0.04		0.01 U	NA	0.01 U	NA
BHC, alpha	0.02		0.01 U	NA	0.01 U	NA
BHC, beta	0.2		0.01 U	NA	0.01 U	NA

B - Analyte detected in associated blank
J - Reported value estimated in quantity
NA - Not analyzed
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05/26/2004
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Table G.13
Groundwater - Compounds Analyzed and Camden City Well 7
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	CW-07	CW-07	CW-07	CW-07
Sample ID	GWQC	MCL	MA-CW07-070202	MA-CW07-070202	MA-CW07-092402	MA-CW07-092402
Sample Date			07/02/2002	07/02/2002	09/24/2002	09/24/2002
Sample Interval			N/A	N/A	N/A	N/A
CLP Sample ID			B0KZ1	MB0KR7	B0N71	MB0L34
Chemical Name						
Pesticides and PCBs (ug/L)						
BHC, delta			0.01 U	NA	0.01 U	NA
BHC, gamma (Lindane)	0.2	0.2	0.01 U	NA	0.01 U	NA
Chlordane - alpha		2	0.01 U	NA	0.01 U	NA
Chlordane - gamma (technical mixture)		2	0.01 U	NA	0.01 U	NA
DDD-4,4	0.1		0.02 U	NA	0.02 U	NA
DDE-4,4	0.1		0.02 U	NA	0.02 U	NA
DDT-4,4	0.1		0.02 U	NA	0.02 U	NA
Dieldrin	0.03		0.02 U	NA	0.02 U	NA
Endosulfan I (alpha)	0.4		0.01 U	NA	0.01 U	NA
Endosulfan II (beta)	0.4		0.02 U	NA	0.02 U	NA
Endosulfan Sulfate	0.4		0.02 U	NA	0.02 U	NA
Endrin	2	2	0.02 U	NA	0.02 U	NA
Endrin Aldehyde		2	0.02 U	NA	0.02 U	NA
Endrin ketone		2	0.02 U	NA	0.02 U	NA
Heptachlor	0.4	0.4	0.01 U	NA	0.01 U	NA
Heptachlor Epoxide	0.2	0.2	0.01 U	NA	0.01 U	NA
Methoxychlor	40	40	0.1 U	NA	0.1 U	NA
Pcb-araclor 1016		0.5	0.2 U	NA	0.2 U	NA
Pcb-araclor 1221		0.5	0.4 U	NA	0.4 U	NA
Pcb-araclor 1232		0.5	0.2 U	NA	0.2 U	NA
Pcb-araclor 1242		0.5	0.2 U	NA	0.2 U	NA
Pcb-araclor 1248		0.5	0.2 U	NA	0.2 U	NA
Pcb-araclor 1254		0.5	0.2 U	NA	0.2 U	NA
Pcb-araclor 1260		0.5	0.2 U	NA	0.2 U	NA
Toxaphene	3	3	1 U	NA	1 U	NA
Semivolatile Organic Compounds (ug/L)						
Acenaphthene	400		5 UJ	NA	5 U	NA
Acenaphthylene			5 UJ	NA	5 U	NA

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Table G.13
Groundwater - Compounds Analyzed and Camden City Well 7
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	CW-07	CW-07	CW-07	CW-07
Sample ID	GWQC	MCL	MA-CW07-070202	MA-CW07-070202	MA-CW07-092402	MA-CW07-092402
Sample Date			07/02/2002	07/02/2002	09/24/2002	09/24/2002
Sample Interval			N/A	N/A	N/A	N/A
CLP Sample ID			B0KZ1	MB0KR7	B0N71	MB0L34
Chemical Name						
Semivolatile Organic Compounds (ug/L)						
Acetophenone			5 UJ	NA	5 U	NA
Anthracene	2000		5 UJ	NA	5 U	NA
Atrazine	3	3	5 UJ	NA	5 UJ	NA
Benzaldehyde			5 UJ	NA	5 U	NA
Benzo(a)anthracene			5 UJ	NA	5 U	NA
Benzo(a)pyrene		0.2	5 UJ	NA	5 U	NA
Benzo(b)fluoranthene			5 UJ	NA	5 U	NA
Benzo(g,h,i)perylene			5 UJ	NA	5 U	NA
Benzo(k)fluoranthene			5 UJ	NA	5 U	NA
Biphenyl			5 UJ	NA	5 U	NA
Bromophenyl-4 Phenyl Ether			5 UJ	NA	5 U	NA
Butylbenzyl phthalate	100		5 UJ	NA	5 U	NA
Caprolactam			5 UJ	NA	5 U	NA
Chloroaniline-4			5 UJ	NA	5 U	NA
Chloronaphthalene-2			5 UJ	NA	5 U	NA
Chlorophenol-2	40		5 UJ	NA	5 U	NA
Chlorophenyl-4 phenyl ether			5 UJ	NA	5 U	NA
Chrysene			5 UJ	NA	5 U	NA
Cresol-4,6-dinitro-ortho			20 UJ	NA	20 UJ	NA
Cresol-o			5 UJ	NA	5 U	NA
Cresol-p			5 UJ	NA	5 U	NA
Cresol-parachloro-meta			5 UJ	NA	5 U	NA
Dibenzo(a,h)anthracene			5 UJ	NA	5 U	NA
Dibenzofuran			5 UJ	NA	5 U	NA
Dichlorobenzidine-3,3	60		5 UJ	NA	5 UJ	NA
Dichlorophenol-2,4	20		5 UJ	NA	5 U	NA
Dimethylphenol-2,4	100		5 UJ	NA	5 U	NA
Dinitrophenol-2,4	40		20 UJ	NA	20 U	NA
Dinitrotoluene-2,4	10		5 UJ	NA	5 U	NA

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05/26/2004
 GWQC - Groundwater Quality Criteria
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Table G.13
Groundwater - Compounds Analyzed and Camden City Well 7
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	CW-07	CW-07	CW-07	CW-07
Sample ID	GWQC	MCL	MA-CW07-070202	MA-CW07-070202	MA-CW07-092402	MA-CW07-092402
Sample Date			07/02/2002	07/02/2002	09/24/2002	09/24/2002
Sample Interval			N/A	N/A	N/A	N/A
CLP Sample ID			B0KZ1	MB0KR7	B0N71	MB0L34
Chemical Name						
Semivolatile Organic Compounds (ug/L)						
Dinitrotoluene-2,6			5 UJ	NA	5 U	NA
Ether, bis(2-chloroethyl)	10		5 UJ	NA	5 U	NA
Ether, bis-chloroisopropyl			5 UJ	NA	5 U	NA
Fluoranthene	300		5 UJ	NA	5 U	NA
Fluorene	300		5 UJ	NA	5 U	NA
Hexachlorobenzene	10	1	5 UJ	NA	5 U	NA
Hexachlorobutadiene	1		5 UJ	NA	5 U	NA
Hexachlorocyclopentadiene	50	50	5 UJ	NA	5 U	NA
Hexachloroethane	10		5 UJ	NA	5 U	NA
Indeno(1,2,3-cd)pyrene			5 UJ	NA	5 U	NA
Isophorone	100		5 UJ	NA	5 U	NA
Methane, bis(2-chloroethoxy)			5 UJ	NA	5 U	NA
Methylnaphthalene-2			5 UJ	NA	5 U	NA
Naphthalene			5 UJ	NA	5 U	NA
Nitroaniline-2			20 UJ	NA	20 U	NA
Nitroaniline-3			20 UJ	NA	20 U	NA
Nitroaniline-4			20 UJ	NA	20 U	NA
Nitrobenzene	10		5 UJ	NA	5 U	NA
Nitrophenol-2			5 UJ	NA	5 U	NA
Nitrophenol-4			20 UJ	NA	20 U	NA
Nitroso-di-n-propyl-amine-N	20		5 UJ	NA	5 U	NA
Nitrosodiphenylamine-n	20		5 UJ	NA	5 U	NA
PCP (Pentachlorophenol)	1	1	5 UJ	NA	5 U	NA
Phenanthrene			5 UJ	NA	5 U	NA
Phenol	4000		5 UJ	NA	5 U	NA
Phthalate, bis(2-ethylhexyl) (DEHP)	30	6	14 UJ	NA	1.1 J	NA
Phthalate, di-n-butyl	900		5 UJ	NA	5 U	NA
Phthalate, di-n-octyl	100		5 UJ	NA	5 U	NA
Phthalate, diethyl	5000		5 UJ	NA	5 U	NA

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J - Reported value estimated in quantity
NA - Not analyzed
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Table G.13
Groundwater - Compounds Analyzed and Camden City Well 7
Martin Aaron Superfund Site
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Station ID	(A)	(B)	CW-07	CW-07	CW-07	CW-07
Sample ID	GWQC	MCL	MA-CW07-070202	MA-CW07-070202	MA-CW07-092402	MA-CW07-092402
Sample Date			07/02/2002	07/02/2002	09/24/2002	09/24/2002
Sample Interval			N/A	N/A	N/A	N/A
CLP Sample ID			B0KZ1	MB0KR7	B0N71	MB0L34
Chemical Name						
Semivolatile Organic Compounds (ug/L)						
Phthalate, dimethyl			5 UJ	NA	5 U	NA
Pyrene	200		5 UJ	NA	5 U	NA
Tetrachlorobenzene-1,2,4,5			5 UJ	NA	5 U	NA
Trichlorophenol-2,4,5	700		20 UJ	NA	20 U	NA
Trichlorophenol-2,4,6	20		5 UJ	NA	5 U	NA
Volatile Organic Compounds (ug/L)						
Acetone	700		5 UJ	NA	6.7 U	NA
Benzene	1	5	0.5 U	NA	0.5 U	NA
Bromoform	4	80	0.5 UJ	NA	0.5 U	NA
Bromomethane	10		0.5 U	NA	0.5 U	NA
Carbon disulfide			0.5 U	NA	0.5 U	NA
Carbon tetrachloride	2	5	0.5 U	NA	0.5 U	NA
Chlorobenzene	4	100	0.5 U	NA	0.5 U	NA
Chlorobromomethane			0.5 U	NA	0.5 U	NA
Chloroethane			0.5 U	NA	0.5 U	NA
Chloroform	6		0.5 U	NA	0.5 U	NA
Chloromethane	30		0.5 U	NA	0.5 U	NA
Cyclohexane			0.5 U	NA	0.52	NA
DBCP (1,2-dibromo-3-chloropropane)		0.2	0.5 U	NA	0.5 U	NA
Dibromochloromethane	10	80	0.5 U	NA	0.5 U	NA
Dibromoethane-1,2	0.05	0.05	0.5 U	NA	0.5 U	NA
Dichlorobenzene-1,2	600	600	0.5 U	NA	0.5 U	NA
Dichlorobenzene-1,3	600		0.5 U	NA	0.5 U	NA
Dichlorobenzene-1,4	75	75	0.5 U	NA	0.5 U	NA
Dichlorobromomethane	1	80	0.5 U	NA	0.5 U	NA
Dichlorodifluoromethane			0.5 U	NA	0.5 U	NA
Dichloroethane-1,1	70		0.5 U	NA	0.5 U	NA
Dichloroethane-1,2	2	5	0.5 U	NA	0.5 U	NA

B - Analyte detected in associated blank

J - Reported value estimated in quantity

NA - Not analyzed

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.13
Groundwater - Compounds Analyzed and Camden City Well 7
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	CW-07	CW-07	CW-07	CW-07
Sample ID	GWQC	MCL	MA-CW07-070202	MA-CW07-070202	MA-CW07-092402	MA-CW07-092402
Sample Date			07/02/2002	07/02/2002	09/24/2002	09/24/2002
Sample Interval			N/A	N/A	N/A	N/A
CLP Sample ID			B0KZ1	MB0KR7	B0N71	MB0L34
Chemical Name						
Volatile Organic Compounds (ug/L)						
Dichloroethene-1,2 trans	100	100	0.5 U	NA	0.5 U	NA
Dichloroethylene-1,1	2	7	0.5 U	NA	0.5 U	NA
Dichloroethylene-1,2 cis	10	70	0.11 J	NA	0.5 U	NA
Dichloropropane-1,2	1	5	0.5 U	NA	0.5 U	NA
Dichloropropene-1,3 cis			0.5 U	NA	0.5 U	NA
Dichloropropene-1,3 trans			0.5 U	NA	0.5 U	NA
Ethylbenzene	700	700	0.5 U	NA	0.5 U	NA
Freon 113 (1,1,2-trichloro-1,2,2-trifluor			0.5 U	NA	0.5 U	NA
Hexanone-2			5 U	NA	5 U	NA
Isopropylbenzene			0.5 U	NA	0.5 U	NA
Methyl acetate			0.5 U	NA	0.5 U	NA
Methyl cyclohexane			0.5 U	NA	0.5 U	NA
Methyl ethyl ketone (2-butanone)	300		5 U	NA	5 U	NA
Methyl isobutyl ketone (4-methyl-2-pen	400		5 U	NA	5 U	NA
Methyl tertiary butyl ether (MTBE)			3.9	NA	6.3	NA
Methylene chloride	2	5	0.1 J	NA	0.5 U	NA
Styrene	100	100	0.5 U	NA	0.5 U	NA
Tetrachloroethane-1,1,2,2	2		0.5 U	NA	0.5 U	NA
Tetrachloroethylene	1	5	0.5 U	NA	0.5 U	NA
Toluene	1000	1000	0.14 J	NA	0.5 U	NA
Trichlorobenzene-1,2,3			0.5 U	NA	0.5 U	NA
Trichlorobenzene-1,2,4	9	70	0.5 U	NA	0.5 U	NA
Trichloroethane-1,1,1	30	200	0.5 U	NA	0.5 U	NA
Trichloroethane-1,1,2	3	5	0.5 U	NA	0.5 U	NA
Trichloroethylene	1	5	0.5 U	NA	0.5 U	NA
Trichlorofluoromethane			0.5 U	NA	0.5 U	NA
Vinyl chloride	5	2	0.5 U	NA	0.5 U	NA
Xylenes, total	40	10000	0.5 U	NA	0.5 U	NA

B - Analyte detected in associated blank
J - Reported value estimated in quantity
NA - Not analyzed
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-12S	MA-MW-12S	MA-MW-13S	MA-MW-13S	MA-MW-13M
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	AMA001	AMA001	AMA002	AMA002	AMA003
Sample Date				10/30/2001	10/30/2001	10/30/2001	10/30/2001	11/02/2001
Sample Interval				5.4 - 15.4 ft	5.4 - 15.4 ft	6.6 - 16.6 ft	6.6 - 16.6 ft	48.35 - 58.35 ft
CLP Sample ID				Q2344-1	R2344-1	Q2344-2	R2344-2	Q2344-3
Chemical Name								
General Chemistry (lb/ft3)								
Bulk Density of Soils				NA	90.6	NA	89.6	NA
Carbon, Total Organic				191300 J	NA	166400 J	NA	650 J
Dry Density				NA	53	NA	46	NA
Grain Size, Clay				NA	48.4	NA	44.5	NA
Grain Size, Sand				NA	6.1	NA	9.6	NA
Grain Size, Silt				NA	45.5	NA	45.9	NA
Gravel Grains				NA	0	NA	0	NA
Moisture, Percent				NA	70.77	NA	94.75	NA
pH				6.55	NA	8.58	NA	8.14
Porosity				NA	64.4	NA	69.4	NA
Specific gravity				NA	2.39	NA	2.41	NA
General Chemistry - lb/ft3 (lb/ft3)								
Bulk Density of Soils				NA	90.6	NA	89.6	NA
Dry Density				NA	53	NA	46	NA
General Chemistry - mg/kg (mg/Kg)								
Carbon, Total Organic				191300 J	NA	166400 J	NA	650 J
General Chemistry - mg/l (mg/Kg)								
Carbon, Total Organic				191300 J	NA	166400 J	NA	650 J
General Chemistry - no units (No Units)								
Specific gravity				NA	2.39	NA	2.41	NA
General Chemistry - percent (%)								
Grain Size, Clay				NA	48.4	NA	44.5	NA
Grain Size, Sand				NA	6.1	NA	9.6	NA
Grain Size, Silt				NA	45.5	NA	45.9	NA

J - Reported value estimated in quantity
NA - Not analyzed
(A, B, C) - Exceeds criteria
Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-12S	MA-MW-12S	MA-MW-13S	MA-MW-13S	MA-MW-13M
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	AMA001	AMA001	AMA002	AMA002	AMA003
Sample Date				10/30/2001	10/30/2001	10/30/2001	10/30/2001	11/02/2001
Sample Interval				5.4 - 15.4 ft	5.4 - 15.4 ft	6.6 - 16.6 ft	6.6 - 16.6 ft	48.35 - 58.35 ft
CLP Sample ID				Q2344-1	R2344-1	Q2344-2	R2344-2	Q2344-3
Chemical Name								
General Chemistry - percent (%)								
Gravel Grains				NA	0	NA	0	NA
Moisture, Percent				NA	70.77	NA	94.75	NA
Porosity				NA	64.4	NA	69.4	NA
General Chemistry - pH (pH)								
pH				6.55	NA	8.58	NA	8.14

302933

J - Reported value estimated in quantity
 NA - Not analyzed
 (A, B, C) - Exceeds criteria
 Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup
 Criteria
 EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-13M	MA-MW-12M	MA-MW-18M	MA-MW-18M	MA-MW-18M
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	AMA003	AMA004-GTM-53	AMA005-GTM-47	AMA005-GTM-47	AMA005-GTM-47-D
Sample Date				11/02/2001	11/05/2001	11/09/2001	11/09/2001	11/09/2001
Sample Interval				48.35 - 58.35 ft	53 - 53.5 ft	47 - 47.5 ft	47 - 47.5 ft	47 - 47.5 ft
CLP Sample ID				R2344-3	R2344-4	S2344-1	T2344-1	WG14173-3
Chemical Name								
General Chemistry (lb/ft3)								
Bulk Density of Soils				133.6	130.2	NA	131.5	NA
Carbon, Total Organic				NA	NA	459	NA	NA
Dry Density				119.6	117.8	NA	117.7	NA
Grain Size, Clay				4.9	6.3	NA	3.2	NA
Grain Size, Sand				77.6	79.3	NA	82.5	NA
Grain Size, Silt				5.8	7.1	NA	3.8	NA
Gravel Grains				11.7	7.3	NA	10.5	NA
Moisture, Percent				11.71	10.52	NA	11.75	NA
pH				NA	NA	9.08	NA	9.12
Porosity				29.5	30.1	27.7	NA	NA
Specific gravity				2.72	2.7	NA	2.61	NA
General Chemistry - lb/ft3 (lb/ft3)								
Bulk Density of Soils				133.6	130.2	NA	131.5	NA
Dry Density				119.6	117.8	NA	117.7	NA
General Chemistry - mg/kg (mg/Kg)								
Carbon, Total Organic				NA	NA	459	NA	NA
General Chemistry - mg/l (mg/Kg)								
Carbon, Total Organic				NA	NA	459	NA	NA
General Chemistry - no units (No Units)								
Specific gravity				2.72	2.7	NA	2.61	NA
General Chemistry - percent (%)								
Grain Size, Clay				4.9	6.3	NA	3.2	NA
Grain Size, Sand				77.6	79.3	NA	82.5	NA
Grain Size, Silt				5.8	7.1	NA	3.8	NA

J - Reported value estimated in quantity
 NA - Not analyzed
 (A, B, C) - Exceeds criteria
 Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup
 Criteria
 EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

05/20/2004

Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-13M	MA-MW-12M	MA-MW-18M	MA-MW-18M	MA-MW-18M
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	AMA003	AMA004-GTM-53	AMA005-GTM-47	AMA005-GTM-47	AMA005-GTM-47-D
Sample Date			F20	11/02/2001	11/05/2001	11/09/2001	11/09/2001	11/09/2001
Sample Interval				48.35 - 58.35 ft	53 - 53.5 ft	47 - 47.5 ft	47 - 47.5 ft	47 - 47.5 ft
CLP Sample ID				R2344-3	R2344-4	S2344-1	T2344-1	WG14173-3
Chemical Name								
General Chemistry - percent (%)								
Gravel Grains				11.7	7.3	NA	10.5	NA
Moisture, Percent				11.71	10.52	NA	11.75	NA
Porosity				29.5	30.1	27.7	NA	NA
General Chemistry - pH (pH)								
pH				NA	NA	9.08	NA	9.12

302935

J - Reported value estimated in quantity
NA - Not analyzed
(A, B, C) - Exceeds criteria
Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-19M	MA-MW-19M	MA-MW-20M	MA-MW-20M	MA-MW-20M
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	AMA006-GTM-34.5	AMA006-GTM-34.5	AMA007-GTS-16	AMA007-GTS-16	AMA008-GTM-47
Sample Date			F20	11/12/2001	11/12/2001	11/13/2001	11/13/2001	11/13/2001
Sample Interval				34.5 - 35 ft	34.5 - 35 ft	16 - 16.5 ft	16 - 16.5 ft	47 - 47.5 ft
CLP Sample ID				S2344-2	T2344-2	S2344-3	T2344-3	S2344-4
Chemical Name								
General Chemistry (lb/ft3)								
Bulk Density of Soils				NA	131.7	NA	123.5	NA
Carbon, Total Organic				185 J	NA	839	NA	443 J
Dry Density				NA	111.2	NA	99.1	NA
Grain Size, Clay				NA	1.6	NA	25.4	NA
Grain Size, Sand				NA	94.4	NA	12.2	NA
Grain Size, Silt				NA	4	NA	62.2	NA
Gravel Grains				NA	0	NA	0.2	NA
Moisture, Percent				NA	18.39	NA	24.67	NA
pH				7.86	NA	7.24	NA	7.61
Porosity				32	NA	NA	40.8	NA
Specific gravity				NA	2.62	NA	2.68	NA
General Chemistry - lb/ft3 (lb/ft3)								
Bulk Density of Soils				NA	131.7	NA	123.5	NA
Dry Density				NA	111.2	NA	99.1	NA
General Chemistry - mg/kg (mg/Kg)								
Carbon, Total Organic				185 J	NA	839	NA	443 J
General Chemistry - mg/l (mg/Kg)								
Carbon, Total Organic				185 J	NA	839	NA	443 J
General Chemistry - no units (No Units)								
Specific gravity				NA	2.62	NA	2.68	NA
General Chemistry - percent (%)								
Grain Size, Clay				NA	1.6	NA	25.4	NA
Grain Size, Sand				NA	94.4	NA	12.2	NA
Grain Size, Silt				NA	4	NA	62.2	NA

J - Reported value estimated in quantity
NA - Not analyzed
(A, B, C) - Exceeds criteria
Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
NRDCSCC - Nonresidential Direct Contact Soil Cleanup Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-19M	MA-MW-19M	MA-MW-20M	MA-MW-20M	MA-MW-20M
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	AMA006-GTM-34.5	AMA006-GTM-34.5	AMA007-GTS-16	AMA007-GTS-16	AMA008-GTM-47
Sample Date			F20	11/12/2001	11/12/2001	11/13/2001	11/13/2001	11/13/2001
Sample Interval				34.5 - 35 ft	34.5 - 35 ft	16 - 16.5 ft	16 - 16.5 ft	47 - 47.5 ft
CLP Sample ID				S2344-2	T2344-2	S2344-3	T2344-3	S2344-4
Chemical Name								
General Chemistry - percent (%)								
Gravel Grains				NA	0	NA	0.2	NA
Moisture, Percent				NA	18.39	NA	24.67	NA
Porosity				32	NA	NA	40.8	NA
General Chemistry - pH (pH)								
pH				7.86	NA	7.24	NA	7.61

J - Reported value estimated in quantity
NA - Not analyzed
(A, B, C) - Exceeds criteria
Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-20M	MA-MW-20M	MA-MW-20M	MA-MW-20D	MA-MW-20D
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	AMA008-GTM-47	AMA009-GTS-16	AMA009-GTS-16	AMA010-GTS-125	AMA010-GTS-125
Sample Date				11/13/2001	11/13/2001	11/13/2001	11/19/2001	11/19/2001
Sample Interval				47 - 47.5 ft	16 - 16.5 ft	16 - 16.5 ft	125 - 125.5 ft	125 - 125.5 ft
CLP Sample ID				T2344-4	S2344-5	T2344-5	U2344-1	V2344-1
Chemical Name								
General Chemistry (lb/ft3)								
Bulk Density of Soils				129.6	NA	127.8	NA	115
Carbon, Total Organic				NA	87.1	NA	58.1 J	NA
Dry Density				115.6	NA	101.6	NA	90.2
Grain Size, Clay				7.9	NA	28.2	NA	38.8
Grain Size, Sand				53.7	NA	12.5	NA	25.4
Grain Size, Silt				16.9	NA	59	NA	35.4
Gravel Grains				21.5	NA	0.3	NA	0.4
Moisture, Percent				12.16	NA	25.84	NA	27.47
pH				NA	7.26	NA	4.52	NA
Porosity				30.1	NA	40.6	NA	45.9
Specific gravity				2.65	NA	2.74	NA	2.67
General Chemistry - lb/ft3 (lb/ft3)								
Bulk Density of Soils				129.6	NA	127.8	NA	115
Dry Density				115.6	NA	101.6	NA	90.2
General Chemistry - mg/kg (mg/Kg)								
Carbon, Total Organic				NA	87.1	NA	58.1 J	NA
General Chemistry - mg/l (mg/Kg)								
Carbon, Total Organic				NA	87.1	NA	58.1 J	NA
General Chemistry - no units (No Units)								
Specific gravity				2.65	NA	2.74	NA	2.67
General Chemistry - percent (%)								
Grain Size, Clay				7.9	NA	28.2	NA	38.8
Grain Size, Sand				53.7	NA	12.5	NA	25.4
Grain Size, Silt				16.9	NA	59	NA	35.4

J - Reported value estimated in quantity
NA - Not analyzed
(A, B, C) - Exceeds criteria
Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-20M	MA-MW-20M	MA-MW-20M	MA-MW-20D	MA-MW-20D
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	AMA008-GTM-47	AMA009-GTS-16	AMA009-GTS-16	AMA010-GTS-125	AMA010-GTS-125
Sample Date			F20	11/13/2001	11/13/2001	11/13/2001	11/19/2001	11/19/2001
Sample Interval				47 - 47.5 ft	16 - 16.5 ft	16 - 16.5 ft	125 - 125.5 ft	125 - 125.5 ft
CLP Sample ID				T2344-4	S2344-5	T2344-5	U2344-1	V2344-1
Chemical Name								
General Chemistry - percent (%)								
Gravel Grains				21.5	NA	0.3	NA	0.4
Moisture, Percent				12.16	NA	25.84	NA	27.47
Porosity				30.1	NA	40.6	NA	45.9
General Chemistry - pH (pH)								
pH				NA	7.26	NA	4.52	NA

302939

J - Reported value estimated in quantity
 NA - Not analyzed
 (A, B, C) - Exceeds criteria
 Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup
 Criteria
 EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-18D	MA-MW-18D	MA-MW-18D	MA-MW-14D	MA-MW-14D
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	AMA011-GTD-113	AMA011-GTD-113	AMA011-GTD-113-D	AMA014-GTD-180	AMA014-GTD-180
Sample Date				11/28/2001	11/28/2001	11/28/2001	01/08/2002	01/08/2002
Sample Interval				113 - 113.5 ft	113 - 113.5 ft	113 - 113.5 ft	180 - 180.5 ft	180 - 180.5 ft
CLP Sample ID				V2344-2	W2344-1	WG14597-3	A2344-1	Z2344-1
Chemical Name								
General Chemistry (lb/ft3)								
Bulk Density of Soils				123.1	NA	NA	124.5	NA
Carbon, Total Organic				NA	1076	NA	NA	1105 J
Dry Density				99.6	NA	NA	116.2	NA
Grain Size, Clay				67.5	NA	NA	5.7	NA
Grain Size, Sand				4.2	NA	NA	41	NA
Grain Size, Silt				27.8	NA	NA	9	NA
Gravel Grains				0.5	NA	NA	44.3	NA
Moisture, Percent				23.58	NA	NA	7.09	NA
pH				NA	4.94	5.02	NA	7.46
Porosity				45.9	NA	NA	30	NA
Specific gravity				2.73	NA	NA	2.66	NA
General Chemistry - lb/ft3 (lb/ft3)								
Bulk Density of Soils				123.1	NA	NA	124.5	NA
Dry Density				99.6	NA	NA	116.2	NA
General Chemistry - mg/kg (mg/Kg)								
Carbon, Total Organic				NA	1076	NA	NA	1105 J
General Chemistry - mg/l (mg/Kg)								
Carbon, Total Organic				NA	1076	NA	NA	1105 J
General Chemistry - no units (No Units)								
Specific gravity				2.73	NA	NA	2.66	NA
General Chemistry - percent (%)								
Grain Size, Clay				67.5	NA	NA	5.7	NA
Grain Size, Sand				4.2	NA	NA	41	NA
Grain Size, Silt				27.8	NA	NA	9	NA

J - Reported value estimated in quantity
 NA - Not analyzed
 (A, B, C) - Exceeds criteria
 Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup
 Criteria
 EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-18D	MA-MW-18D	MA-MW-18D	MA-MW-14D	MA-MW-14D
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	AMA011-GTD-113	AMA011-GTD-113	AMA011-GTD-113-D	AMA014-GTD-180	AMA014-GTD-180
Sample Date				11/28/2001	11/28/2001	11/28/2001	01/08/2002	01/08/2002
Sample Interval				113 - 113.5 ft	113 - 113.5 ft	113 - 113.5 ft	180 - 180.5 ft	180 - 180.5 ft
CLP Sample ID				V2344-2	W2344-1	WG14597-3	A2344-1	Z2344-1
Chemical Name								
General Chemistry - percent (%)								
Gravel Grains				0.5	NA	NA	44.3	NA
Moisture, Percent				23.58	NA	NA	7.09	NA
Porosity				45.9	NA	NA	30	NA
General Chemistry - pH (pH)								
pH				NA	4.94	5.02	NA	7.46

J - Reported value estimated in quantity
 NA - Not analyzed
 (A, B, C) - Exceeds criteria
 Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup
 Criteria
 EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-14D	MA-MW-14M	MA-MW-14M	MA-MW-14M	MA-MW-14M
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	AMA014-GTD-180-D	AMA015-GTD-110	AMA015-GTD-110	AMA016-GTD-110	AMA016-GTD-110
Sample Date				01/08/2002	01/09/2002	01/09/2002	01/09/2002	01/09/2002
Sample Interval				180 - 180.5 ft	110 - 110.5 ft	110 - 110.5 ft	110 - 110.5 ft	110 - 110.5 ft
CLP Sample ID				WG15233-3	A2344-2	Z2344-2	A2344-3	Z2344-3
Chemical Name								
General Chemistry (lb/ft3)								
Bulk Density of Soils				NA	134.7	NA	137.3	NA
Carbon, Total Organic				NA	NA	1124 J	NA	998 J
Dry Density				NA	111.9	NA	117.2	NA
Grain Size, Clay				NA	23.9	NA	38.3	NA
Grain Size, Sand				NA	60.1	NA	36.2	NA
Grain Size, Silt				NA	16	NA	25.5	NA
Gravel Grains				NA	0	NA	0	NA
Moisture, Percent				NA	20.35	NA	17.16	NA
pH				7.6	NA	6.91	NA	7.34
Porosity				NA	32.3	NA	29.7	NA
Specific gravity				NA	2.65	NA	2.67	NA
General Chemistry - lb/ft3 (lb/ft3)								
Bulk Density of Soils				NA	134.7	NA	137.3	NA
Dry Density				NA	111.9	NA	117.2	NA
General Chemistry - mg/kg (mg/Kg)								
Carbon, Total Organic				NA	NA	1124 J	NA	998 J
General Chemistry - mg/l (mg/Kg)								
Carbon, Total Organic				NA	NA	1124 J	NA	998 J
General Chemistry - no units (No Units)								
Specific gravity				NA	2.65	NA	2.67	NA
General Chemistry - percent (%)								
Grain Size, Clay				NA	23.9	NA	38.3	NA
Grain Size, Sand				NA	60.1	NA	36.2	NA
Grain Size, Silt				NA	16	NA	25.5	NA

J - Reported value estimated in quantity
NA - Not analyzed
(A, B, C) - Exceeds criteria
Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-14D	MA-MW-14M	MA-MW-14M	MA-MW-14M	MA-MW-14M
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	AMA014-GTD-180-D	AMA015-GTD-110	AMA015-GTD-110	AMA016-GTD-110	AMA016-GTD-110
Sample Date			F20	01/08/2002	01/09/2002	01/09/2002	01/09/2002	01/09/2002
Sample Interval				180 - 180.5 ft	110 - 110.5 ft	110 - 110.5 ft	110 - 110.5 ft	110 - 110.5 ft
CLP Sample ID				WG15233-3	A2344-2	Z2344-2	A2344-3	Z2344-3
Chemical Name								
General Chemistry - percent (%)								
Gravel Grains				NA	0	NA	0	NA
Moisture, Percent				NA	20.35	NA	17.16	NA
Porosity				NA	32.3	NA	29.7	NA
General Chemistry - pH (pH)								
pH				7.6	NA	6.91	NA	7.34

302943

J - Reported value estimated in quantity
 NA - Not analyzed
 (A, B, C) - Exceeds criteria
 Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup
 Criteria
 EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-14S	MA-MW-14S	MA-MW-21S	MA-MW-21S	MA-MW-22S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	AMA017-GTS-12	AMA017-GTS-12	AMA018-GTS-14	AMA018-GTS-14	AMA019-GTS-14
Sample Date				01/10/2002	01/10/2002	01/10/2002	01/10/2002	01/11/2002
Sample Interval				12 - 12.5 ft	12 - 12.5 ft	14 - 14.5 ft	14 - 14.5 ft	14 - 14.5 ft
CLP Sample ID				A2344-4	Z2344-4	A2344-5	Z2344-5	A2344-6
Chemical Name								
General Chemistry (lb/ft3)								
Bulk Density of Soils				132.8	NA	135.9	NA	138.9
Carbon, Total Organic				NA	60660	NA	2960 J	NA
Dry Density				117.7	NA	123.4	NA	131
Grain Size, Clay				4.7	NA	3.2	NA	2.7
Grain Size, Sand				81.7	NA	86.5	NA	82.5
Grain Size, Silt				13.6	NA	5.1	NA	8
Gravel Grains				0	NA	5.2	NA	6.8
Moisture, Percent				12.79	NA	10.1	NA	6
pH				NA	7.56	NA	7.85	NA
Porosity				30.4	NA	26.7	NA	34.5
Specific gravity				2.71	NA	2.7	NA	2.7
General Chemistry - lb/ft3 (lb/ft3)								
Bulk Density of Soils				132.8	NA	135.9	NA	138.9
Dry Density				117.7	NA	123.4	NA	131
General Chemistry - mg/kg (mg/Kg)								
Carbon, Total Organic				NA	60660	NA	2960 J	NA
General Chemistry - mg/l (mg/Kg)								
Carbon, Total Organic				NA	60660	NA	2960 J	NA
General Chemistry - no units (No Units)								
Specific gravity				2.71	NA	2.7	NA	2.7
General Chemistry - percent (%)								
Grain Size, Clay				4.7	NA	3.2	NA	2.7
Grain Size, Sand				81.7	NA	86.5	NA	82.5
Grain Size, Silt				13.6	NA	5.1	NA	8

J - Reported value estimated in quantity
NA - Not analyzed
(A, B, C) - Exceeds criteria
Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-14S	MA-MW-14S	MA-MW-21S	MA-MW-21S	MA-MW-22S
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	AMA017-GTS-12	AMA017-GTS-12	AMA018-GTS-14	AMA018-GTS-14	AMA019-GTS-14
Sample Date				01/10/2002	01/10/2002	01/10/2002	01/10/2002	01/11/2002
Sample Interval				12 - 12.5 ft	12 - 12.5 ft	14 - 14.5 ft	14 - 14.5 ft	14 - 14.5 ft
CLP Sample ID				A2344-4	Z2344-4	A2344-5	Z2344-5	A2344-6
Chemical Name								
General Chemistry - percent (%)								
Gravel Grains				0	NA	5.2	NA	6.8
Moisture, Percent				12.79	NA	10.1	NA	6
Porosity				30.4	NA	26.7	NA	34.5
General Chemistry - pH (pH)								
pH				NA	7.56	NA	7.85	NA

302945

J - Reported value estimated in quantity
 NA - Not analyzed
 (A, B, C) - Exceeds criteria
 Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup
 Criteria
 EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-22S	MA-MW-12M	MA-MW-19R	MA-MW-20R	MA-MW-20R
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	AMA019-GTS-14	MA-MW-12M-GTM-53	MA-MW-19R-GTD-103	MA-MW-20R-GTD-113	MA-MW-20R-GTD-113-
Sample Date				01/11/2002	11/05/2001	06/17/2002	06/13/2002	06/13/2002
Sample Interval				14 - 14.5 ft	53 - 53.5 ft	103 - 103.5 ft	113 - 113.5 ft	113 - 113.5 ft
CLP Sample ID				Z2344-6	Q2344-4	B2344-3	B2344-1	B2344-2
Chemical Name								
General Chemistry (lb/ft3)								
Bulk Density of Soils				NA	NA	NA	NA	NA
Carbon, Total Organic				821 J	269 J	498	289 J	728 J
Dry Density				NA	NA	NA	NA	NA
Grain Size, Clay				NA	NA	NA	NA	NA
Grain Size, Sand				NA	NA	NA	NA	NA
Grain Size, Silt				NA	NA	NA	NA	NA
Gravel Grains				NA	NA	NA	NA	NA
Moisture, Percent				NA	NA	NA	NA	NA
pH				8.14	7.42	7.7	7.39	NA
Porosity				NA	NA	NA	NA	NA
Specific gravity				NA	NA	NA	NA	NA
General Chemistry - lb/ft3 (lb/ft3)								
Bulk Density of Soils				NA	NA	NA	NA	NA
Dry Density				NA	NA	NA	NA	NA
General Chemistry - mg/kg (mg/Kg)								
Carbon, Total Organic				821 J	269 J	498	289 J	728 J
General Chemistry - mg/l (mg/Kg)								
Carbon, Total Organic				821 J	269 J	498	289 J	728 J
General Chemistry - no units (No Units)								
Specific gravity				NA	NA	NA	NA	NA
General Chemistry - percent (%)								
Grain Size, Clay				NA	NA	NA	NA	NA
Grain Size, Sand				NA	NA	NA	NA	NA
Grain Size, Silt				NA	NA	NA	NA	NA

J - Reported value estimated in quantity
NA - Not analyzed
(A, B, C) - Exceeds criteria
Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-22S	MA-MW-12M	MA-MW-19R	MA-MW-20R	MA-MW-20R
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	AMA019-GTS-14	MA-MW-12M-GTM-53	MA-MW-19R-GTD-103	MA-MW-20R-GTD-113	MA-MW-20R-GTD-113
Sample Date				01/11/2002	11/05/2001	06/17/2002	06/13/2002	06/13/2002
Sample Interval				14 - 14.5 ft	53 - 53.5 ft	103 - 103.5 ft	113 - 113.5 ft	113 - 113.5 ft
CLP Sample ID				Z2344-6	Q2344-4	B2344-3	B2344-1	B2344-2
Chemical Name								
General Chemistry - percent (%)								
Gravel Grains				NA	NA	NA	NA	NA
Moisture, Percent				NA	NA	NA	NA	NA
Porosity				NA	NA	NA	NA	NA
General Chemistry - pH (pH)								
pH				8.14	7.42	7.7	7.39	NA

J - Reported value estimated in quantity
 NA - Not analyzed
 (A, B, C) - Exceeds criteria
 Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup
 Criteria
 EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-20R
Sample ID	IGWSCC	NRDCSCC	EPASSLDA	1A-MW-20R-GTD-113-
Sample Date			F20	06/13/2002
Sample Interval				113 - 113.5 ft
CLP Sample ID				WG18004-3
Chemical Name				
General Chemistry (lb/ft3)				
Bulk Density of Soils				NA
Carbon, Total Organic				NA
Dry Density				NA
Grain Size, Clay				NA
Grain Size, Sand				NA
Grain Size, Silt				NA
Gravel Grains				NA
Moisture, Percent				NA
pH				7.35
Porosity				NA
Specific gravity				NA
General Chemistry - lb/ft3 (lb/ft3)				
Bulk Density of Soils				NA
Dry Density				NA
General Chemistry - mg/kg (mg/Kg)				
Carbon, Total Organic				NA
General Chemistry - mg/l (mg/Kg)				
Carbon, Total Organic				NA
General Chemistry - no units (No Units)				
Specific gravity				NA
General Chemistry - percent (%)				
Grain Size, Clay				NA
Grain Size, Sand				NA
Grain Size, Silt				NA

J - Reported value estimated in quantity
 NA - Not analyzed
 (A, B, C) - Exceeds criteria
 Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
 NRDCSCC - Nonresidential Direct Contact Soil Cleanup
 Criteria
 EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.14
Soil - Geochemical Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	(C)	MA-MW-20R
Sample ID	IGWSCC	NRDCSCC	EPASSLDA F20	MA-MW-20R-GTD-113-
Sample Date				06/13/2002
Sample Interval				113 - 113.5 ft
CLP Sample ID				WG18004-3
Chemical Name				
General Chemistry - percent (%)				
Gravel Grains				NA
Moisture, Percent				NA
Porosity				NA
General Chemistry - pH (pH)				
pH				7.35

302949

J - Reported value estimated in quantity
NA - Not analyzed
(A, B, C) - Exceeds criteria
Detects highlighted

IGWSCC - Impact to Groundwater Soil Cleanup Criteria
NRDCSCC - Nonresidential Direct Contact Soil Cleanup
Criteria
EPASSLDAF20 - EPA Region 9 Soil Cleanup Criteria

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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-10S	MA-MW-10S	MA-MW-10S	MA-MW-11M	MA-MW-11M
Sample ID	GWQC	MCL	BMA001	BMA001	BMA001-D	BMA002	BMA002
Sample Date			06/19/2002	06/19/2002	06/19/2002	06/20/2002	06/20/2002
Sample Interval			8 - 18 ft	8 - 18 ft	8 - 18 ft	46 - 56 ft	46 - 56 ft
CLP Sample ID			E2344-4	F13630-1	WG18278-3	E2344-10	F13644-1
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			446	NA	NA	400	NA
Carbon Dioxide			NA	453	NA	NA	471
Carbon, Total Organic			13.15	NA	NA	7.759	NA
Chloride	250		53.9	NA	NA	71.7	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		530 (A)	NA	NA	338 (A)	NA
Iron, Ferrous			NA	0.1 U	NA	NA	0.1 U
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			4.03	NA	NA	8.93	NA
Nitrogen, Kjeldahl			4.529	NA	NA	9.776	NA
Nitrogen, Nitrate as N	10		0.05 U	NA	NA	0.05 U	NA
Nitrogen, Nitrite	1		0.05 U	NA	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			NA	2 U	NA	NA	2 U
Oxygen Demand, Chemical			NA	37	NA	NA	20 U
Phosphorus-32			0.518 U	NA	NA	0.1 U	NA
Solids, Total Dissolved (Residue, Filter			748	NA	703	526	NA
Solids, Total Suspended			34	NA	13	23	NA
Sulfate	250		153	NA	NA	36.8	NA
Sulfide			0.76 U	NA	NA	0.5 U	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			13.15	NA	NA	7.759	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			446	NA	NA	400	NA
Carbon Dioxide			NA	453	NA	NA	471
Carbon, Total Organic			13.15	NA	NA	7.759	NA
Chloride	250		53.9	NA	NA	71.7	NA

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-10S	MA-MW-10S	MA-MW-10S	MA-MW-11M	MA-MW-11M
Sample ID	GWQC	MCL	BMA001	BMA001	BMA001-D	BMA002	BMA002
Sample Date			06/19/2002	06/19/2002	06/19/2002	06/20/2002	06/20/2002
Sample Interval			8 - 18 ft	8 - 18 ft	8 - 18 ft	46 - 56 ft	46 - 56 ft
CLP Sample ID			E2344-4	F13630-1	WG18278-3	E2344-10	F13644-1
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		530 (A)	NA	NA	338 (A)	NA
Iron, Ferrous			NA	0.1 U	NA	NA	0.1 U
Nitrogen, Ammonia as N			4.03	NA	NA	8.93	NA
Nitrogen, Kjeldahl			4.529	NA	NA	9.776	NA
Nitrogen, Nitrate as N	10		0.05 U	NA	NA	0.05 U	NA
Nitrogen, Nitrite	1		0.05 U	NA	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			NA	2 U	NA	NA	2 U
Oxygen Demand, Chemical			NA	37	NA	NA	20 U
Phosphorus-32			0.518 U	NA	NA	0.1 U	NA
Solids, Total Dissolved (Residue, Filter			748	NA	703	526	NA
Solids, Total Suspended			34	NA	13	23	NA
Sulfate	250		153	NA	NA	36.8	NA
Sulfide			0.76 U	NA	NA	0.5 U	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			0.5 J	NA	NA	5	NA
Ethane			0.5 J	NA	NA	5	NA
Ethene			2 U	NA	NA	2 U	NA
Ethene			2 U	NA	NA	2 U	NA
Methane			50 B	NA	NA	20	NA

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-11S	MA-MW-11S	MA-MW-01M	MA-MW-01M	MA-MW-01S
Sample ID	GWQC	MCL	BMA003	BMA003	BMA004	BMA004	BMA005
Sample Date			06/20/2002	06/20/2002	06/20/2002	06/20/2002	06/20/2002
Sample Interval			11 - 21 ft	11 - 21 ft	50 - 60 ft	50 - 60 ft	4 - 14 ft
CLP Sample ID			E2344-11	F13644-2	E2344-12	F13644-3	E2344-13
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			204	NA	270	NA	1070
Carbon Dioxide			NA	302	NA	244	NA
Carbon, Total Organic			5 U	NA	5 U	NA	18.25
Chloride	250		12.7	NA	121	NA	158
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		280 (A)	NA	340 (A)	NA	1010 (A)
Iron, Ferrous			NA	0.1 U	NA	1.9 U	NA
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			0.1 U	NA	1.09	NA	47
Nitrogen, Kjeldahl			0.272	NA	1.147	NA	49.78
Nitrogen, Nitrate as N	10		5	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	2 U	NA	2 U	NA
Oxygen Demand, Chemical			NA	20 U	NA	20 U	NA
Phosphorus-32			0.1 U	NA	0.109 U	NA	2.115
Solids, Total Dissolved (Residue, Filter			394	NA	582	NA	909
Solids, Total Suspended			89	NA	30	NA	70
Sulfate	250		66.2	NA	98.9	NA	36.8
Sulfide			0.5 U	NA	0.5 U	NA	3.28
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			5 U	NA	5 U	NA	18.25
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			204	NA	270	NA	1070
Carbon Dioxide			NA	302	NA	244	NA
Carbon, Total Organic			5 U	NA	5 U	NA	18.25
Chloride	250		12.7	NA	121	NA	158

J - Reported value estimated in quantity

NA -Not analyzed

R- Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-11S	MA-MW-11S	MA-MW-01M	MA-MW-01M	MA-MW-01S
Sample ID	GWQC	MCL	BMA003	BMA003	BMA004	BMA004	BMA005
Sample Date			06/20/2002	06/20/2002	06/20/2002	06/20/2002	06/20/2002
Sample Interval			11 - 21 ft	11 - 21 ft	50 - 60 ft	50 - 60 ft	4 - 14 ft
CLP Sample ID			E2344-11	F13644-2	E2344-12	F13644-3	E2344-13
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		280 (A)	NA	340 (A)	NA	1010 (A)
Iron, Ferrous			NA	0.1 U	NA	1.9 U	NA
Nitrogen, Ammonia as N			0.1 U	NA	1.09	NA	47
Nitrogen, Kjeldahl			0.272	NA	1.147	NA	49.78
Nitrogen, Nitrate as N	10		5	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	2 U	NA	2 U	NA
Oxygen Demand, Chemical			NA	20 U	NA	20 U	NA
Phosphorus-32			0.1 U	NA	0.109 U	NA	2.115
Solids, Total Dissolved (Residue, Filter			394	NA	582	NA	909
Solids, Total Suspended			89	NA	30	NA	70
Sulfate	250		66.2	NA	98.9	NA	36.8
Sulfide			0.5 U	NA	0.5 U	NA	3.28
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			2 U	NA	1 J	NA	3 U
Ethane			2 U	NA	1 J	NA	3 U
Ethene			0.06 J	NA	3 U	NA	150 U
Ethene			0.06 J	NA	3 U	NA	150 U
Methane			0.1 U	NA	24	NA	600

J - Reported value estimated in quantity
NA - Not analyzed
R- Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-01S	MA-MW-04S	MA-MW-04S	MA-MW-05S	MA-MW-05S
Sample ID	GWQC	MCL	BMA005	BMA008	BMA008	BMA009	BMA009
Sample Date			06/20/2002	06/12/2002	06/12/2002	06/27/2002	06/27/2002
Sample Interval			4 - 14 ft	4 - 14 ft	4 - 14 ft	6 - 16 ft	6 - 16 ft
CLP Sample ID			F13644-4	C2344-1	F13535-1	E2344-16	F13728-3
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO ₃			NA	270	NA	1310	NA
Carbon Dioxide			824	NA	224	NA	964
Carbon, Total Organic			NA	14.02	NA	38.46	NA
Chloride	250		NA	3.5	NA	78.6	NA
Ethane			NA	2 U	NA	NA	NA
Ethene			NA	2 U	NA	NA	NA
Hardness (As CaCO ₃)	250		NA	288 (A)	NA	1020 (A)	NA
Iron, Ferrous			0.1 U	NA	3.1	NA	0.78 J
Methane			NA	2 U	NA	NA	NA
Nitrogen, Ammonia as N			NA	1.71	NA	25.1	NA
Nitrogen, Kjeldahl			NA	2.298	NA	29.21	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			9.2	NA	2 U	NA	18.3 J
Oxygen Demand, Chemical			63.8	NA	42.6	NA	125
Phosphorus-32			NA	0.36	NA	1.361	NA
Solids, Total Dissolved (Residue, Filter			NA	332	NA	1290	NA
Solids, Total Suspended			NA	24	NA	8.3	NA
Sulfate	250		NA	12.3	NA	5 U	NA
Sulfide			NA	0.5 U	NA	2.84	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	14.02	NA	38.46	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO ₃			NA	270	NA	1310	NA
Carbon Dioxide			824	NA	224	NA	964
Carbon, Total Organic			NA	14.02	NA	38.46	NA
Chloride	250		NA	3.5	NA	78.6	NA

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-01S	MA-MW-04S	MA-MW-04S	MA-MW-05S	MA-MW-05S
Sample ID	GWQC	MCL	BMA005	BMA008	BMA008	BMA009	BMA009
Sample Date			06/20/2002	06/12/2002	06/12/2002	06/27/2002	06/27/2002
Sample Interval			4 - 14 ft	4 - 14 ft	4 - 14 ft	6 - 16 ft	6 - 16 ft
CLP Sample ID			F13644-4	C2344-1	F13535-1	E2344-16	F13728-3
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	288 (A)	NA	1020 (A)	NA
Iron, Ferrous			0.1 U	NA	3.1	NA	0.78 J
Nitrogen, Ammonia as N			NA	1.71	NA	25.1	NA
Nitrogen, Kjeldahl			NA	2.298	NA	29.21	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			9.2	NA	2 U	NA	18.3 J
Oxygen Demand, Chemical			63.8	NA	42.6	NA	125
Phosphorus-32			NA	0.36	NA	1.361	NA
Solids, Total Dissolved (Residue, Filter			NA	332	NA	1290	NA
Solids, Total Suspended			NA	24	NA	8.3	NA
Sulfate	250		NA	12.3	NA	5 U	NA
Sulfide			NA	0.5 U	NA	2.84	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	2 U	NA	NA	NA
Ethene			NA	2 U	NA	NA	NA
Methane			NA	2 U	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	NA	NA	8 UJ	NA
Ethane			NA	NA	NA	8 UJ	NA
Ethene			NA	NA	NA	150 UJ	NA
Ethene			NA	NA	NA	150 UJ	NA
Methane			NA	NA	NA	350 J	NA

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-08S	MA-MW-08S	MA-MW-09D	MA-MW-09D	MA-MW-09S
Sample ID	GWQC	MCL	BMA011	BMA011	BMA012	BMA012	BMA013
Sample Date			06/12/2002	06/12/2002	06/19/2002	06/19/2002	06/19/2002
Sample Interval			4 - 14 ft	4 - 14 ft	44 - 54 ft	44 - 54 ft	16 - 26 ft
CLP Sample ID			C2344-2	F13535-2	E2344-5	F13630-2	E2344-6
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO ₃			498	NA	280	NA	340
Carbon Dioxide			NA	893	NA	285	NA
Carbon, Total Organic			17.22	NA	8.739	NA	7.209
Chloride	250		7.26	NA	79	NA	47.6
Ethane			15 U	NA	NA	NA	NA
Ethene			15 U	NA	NA	NA	NA
Hardness (As CaCO ₃)	250		474 (A)	NA	326 (A)	NA	310 (A)
Iron, Ferrous			NA	3.8	NA	1.6	NA
Methane			170	NA	NA	NA	NA
Nitrogen, Ammonia as N			5.97	NA	4.92	NA	3.69
Nitrogen, Kjeldahl			7.962	NA	4.951	NA	3.941
Nitrogen, Nitrate as N	10		0.05 U	NA	0.32	NA	0.115
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	19.7	NA	2 U	NA
Oxygen Demand, Chemical			NA	61.2	NA	20 U	NA
Phosphorus-32			0.627	NA	0.1 U	NA	0.1 U
Solids, Total Dissolved (Residue, Filter			510	NA	484	NA	564
Solids, Total Suspended			45	NA	16	NA	20.6
Sulfate	250		5 U	NA	65	NA	95.9
Sulfide			1.56	NA	0.5 U	NA	0.5 U
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			17.22	NA	8.739	NA	7.209
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO ₃			498	NA	280	NA	340
Carbon Dioxide			NA	893	NA	285	NA
Carbon, Total Organic			17.22	NA	8.739	NA	7.209
Chloride	250		7.26	NA	79	NA	47.6

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

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GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-08S	MA-MW-08S	MA-MW-09D	MA-MW-09D	MA-MW-09S
Sample ID	GWQC	MCL	BMA011	BMA011	BMA012	BMA012	BMA013
Sample Date			06/12/2002	06/12/2002	06/19/2002	06/19/2002	06/19/2002
Sample Interval			4 - 14 ft	4 - 14 ft	44 - 54 ft	44 - 54 ft	16 - 26 ft
CLP Sample ID			C2344-2	F13535-2	E2344-5	F13630-2	E2344-6
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		474 (A)	NA	326 (A)	NA	310 (A)
Iron, Ferrous			NA	3.8	NA	1.6	NA
Nitrogen, Ammonia as N			5.97	NA	4.92	NA	3.69
Nitrogen, Kjeldahl			7.962	NA	4.951	NA	3.941
Nitrogen, Nitrate as N	10		0.05 U	NA	0.32	NA	0.115
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	19.7	NA	2 U	NA
Oxygen Demand, Chemical			NA	61.2	NA	20 U	NA
Phosphorus-32			0.627	NA	0.1 U	NA	0.1 U
Solids, Total Dissolved (Residue, Filter			510	NA	484	NA	564
Solids, Total Suspended			45	NA	16	NA	20.6
Sulfate	250		5 U	NA	65	NA	95.9
Sulfide			1.56	NA	0.5 U	NA	0.5 U
General Chemistry - ug/l (ug/L)							
Ethane			15 U	NA	NA	NA	NA
Ethene			15 U	NA	NA	NA	NA
Methane			170	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	NA	0.04 U	NA	3
Ethane			NA	NA	0.04 U	NA	3
Ethene			NA	NA	2 U	NA	0.08 J
Ethene			NA	NA	2 U	NA	0.08 J
Methane			NA	NA	0.4 U	NA	18 J

J - Reported value estimated in quantity
NA -Not analyzed
R- Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-09S	CW-07	CW-07	MA-MW-12M	MA-MW-12M
Sample ID	GWQC	MCL	BMA013	BMA014	BMA014	BMA015	BMA015
Sample Date			06/19/2002	07/02/2002	07/02/2002	06/18/2002	06/18/2002
Sample Interval			16 - 26 ft	N/A	N/A	38.1 - 48.1 ft	38.1 - 48.1 ft
CLP Sample ID			F13630-3	F13755-1	G2344-1	E2344-1	F13612-4
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	NA	68	270	NA
Carbon Dioxide			375	159	NA	NA	340
Carbon, Total Organic			NA	NA	5 U	5.771	NA
Chloride	250		NA	NA	40.9	99.2	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		NA	NA	122	354 (A)	NA
Iron, Ferrous			0.1 U	2.5 J	NA	NA	2.6
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			NA	NA	3.5	2.38	NA
Nitrogen, Kjeldahl			NA	NA	3.782	2.542	NA
Nitrogen, Nitrate as N	10		NA	NA	0.16	0.06	NA
Nitrogen, Nitrite	1		NA	NA	0.05 U	0.05 U	NA
Oxygen Demand, Biologic Five Day			2 U	19.6 J	NA	NA	15.6
Oxygen Demand, Chemical			21.1	20 U	NA	NA	20 U
Phosphorus-32			NA	NA	0.1 U	0.9	NA
Solids, Total Dissolved (Residue, Filter			NA	NA	204 J	14	NA
Solids, Total Suspended			NA	NA	20.2	314	NA
Sulfate	250		NA	NA	45.1	78.2	NA
Sulfide			NA	NA	0.52	0.5 U	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	NA	5 U	5.771	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	NA	68	270	NA
Carbon Dioxide			375	159	NA	NA	340
Carbon, Total Organic			NA	NA	5 U	5.771	NA
Chloride	250		NA	NA	40.9	99.2	NA

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-09S	CW-07	CW-07	MA-MW-12M	MA-MW-12M
Sample ID	GWQC	MCL	BMA013	BMA014	BMA014	BMA015	BMA015
Sample Date			06/19/2002	07/02/2002	07/02/2002	06/18/2002	06/18/2002
Sample Interval			16 - 26 ft	N/A	N/A	38.1 - 48.1 ft	38.1 - 48.1 ft
CLP Sample ID			F13630-3	F13755-1	G2344-1	E2344-1	F13612-4
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	NA	122	354 (A)	NA
Iron, Ferrous			0.1 U	2.5 J	NA	NA	2.6
Nitrogen, Ammonia as N			NA	NA	3.5	2.38	NA
Nitrogen, Kjeldahl			NA	NA	3.782	2.542	NA
Nitrogen, Nitrate as N	10		NA	NA	0.16	0.06	NA
Nitrogen, Nitrite	1		NA	NA	0.05 U	0.05 U	NA
Oxygen Demand, Biologic Five Day			2 U	19.6 J	NA	NA	15.6
Oxygen Demand, Chemical			21.1	20 U	NA	NA	20 U
Phosphorus-32			NA	NA	0.1 U	0.9	NA
Solids, Total Dissolved (Residue, Filter			NA	NA	204 J	14	NA
Solids, Total Suspended			NA	NA	20.2	314	NA
Sulfate	250		NA	NA	45.1	78.2	NA
Sulfide			NA	NA	0.52	0.5 U	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	NA	1.5 U	0.4 J	NA
Ethane			NA	NA	1.5 U	0.4 J	NA
Ethene			NA	NA	1.5 U	0.3 J	NA
Ethene			NA	NA	1.5 U	0.3 J	NA
Methane			NA	NA	0.2 U	8 J	NA

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-12S	MA-MW-12S	MA-MW-13M	MA-MW-13M	MA-MW-13S
Sample ID	GWQC	MCL	BMA016	BMA016	BMA017	BMA017	BMA018
Sample Date			06/18/2002	06/18/2002	06/27/2002	06/27/2002	06/28/2002
Sample Interval			5.4 - 15.4 ft	5.4 - 15.4 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	6.6 - 16.6 ft
CLP Sample ID			E2344-2	F13612-5	E2344-14	F13728-1	E2344-15
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			414	NA	274 J	NA	1150
Carbon Dioxide			NA	513	NA	258	NA
Carbon, Total Organic			24.36	NA	5 U	NA	1427
Chloride	250		64.8	NA	131	NA	125
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		536 (A)	NA	328 (A)	NA	1220 (A)
Iron, Ferrous			NA	2.4	NA	3.7 J	NA
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			7.01	NA	0.448	NA	64.2
Nitrogen, Kjeldahl			3.936	NA	0.4634	NA	134
Nitrogen, Nitrate as N	10		0.07	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	4.42 (A)
Oxygen Demand, Biologic Five Day			NA	4.6	NA	2 UJ	NA
Oxygen Demand, Chemical			NA	79.2	NA	20 U	NA
Phosphorus-32			1.295	NA	0.1 U	NA	0.468 U
Solids, Total Dissolved (Residue, Filter			827	NA	571	NA	2490
Solids, Total Suspended			100	NA	53.3	NA	114
Sulfate	250		232	NA	88.4	NA	24.6
Sulfide			0.96 U	NA	0.52 U	NA	17.6
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			24.36	NA	5 U	NA	1427
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			414	NA	274 J	NA	1150
Carbon Dioxide			NA	513	NA	258	NA
Carbon, Total Organic			24.36	NA	5 U	NA	1427
Chloride	250		64.8	NA	131	NA	125

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-12S	MA-MW-12S	MA-MW-13M	MA-MW-13M	MA-MW-13S
Sample ID	GWQC	MCL	BMA016	BMA016	BMA017	BMA017	BMA018
Sample Date			06/18/2002	06/18/2002	06/27/2002	06/27/2002	06/28/2002
Sample Interval			5.4 - 15.4 ft	5.4 - 15.4 ft	48.35 - 58.35 ft	48.35 - 58.35 ft	6.6 - 16.6 ft
CLP Sample ID			E2344-2	F13612-5	E2344-14	F13728-1	E2344-15
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		536 (A)	NA	328 (A)	NA	1220 (A)
Iron, Ferrous			NA	2.4	NA	3.7 J	NA
Nitrogen, Ammonia as N			7.01	NA	0.448	NA	64.2
Nitrogen, Kjeldahl			3.936	NA	0.4634	NA	134
Nitrogen, Nitrate as N	10		0.07	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	4.42 J (A)
Oxygen Demand, Biologic Five Day			NA	4.6	NA	2 UJ	NA
Oxygen Demand, Chemical			NA	79.2	NA	20 U	NA
Phosphorus-32			1.295	NA	0.1 U	NA	0.468 U
Solids, Total Dissolved (Residue, Filter			827	NA	571	NA	2490
Solids, Total Suspended			100	NA	53.3	NA	114
Sulfate	250		232	NA	88.4	NA	24.6
Sulfide			0.96 U	NA	0.52 U	NA	17.6
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (UG/L)							
Ethane			5 J	NA	0.8 J	NA	75 U
Ethane			5 J	NA	0.8 J	NA	75 U
Ethene			6 J	NA	0.04 J	NA	75 U
Ethene			6 J	NA	0.04 J	NA	75 U
Methane			31 J	NA	13	NA	160

J - Reported value estimated in quantity
NA - Not analyzed
R- Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-13S	MA-MW-14D	MA-MW-14D	MA-MW-14R	MA-MW-14R
Sample ID	GWQC	MCL	BMA018	BMA019	BMA019	BMA020	BMA020
Sample Date			06/28/2002	06/18/2002	06/18/2002	06/18/2002	06/18/2002
Sample Interval			6.6 - 16.6 ft	170 - 188 ft	170 - 188 ft	109.5 - 119.5 ft	109.5 - 119.5 ft
CLP Sample ID			F13728-2	E2344-3	F13612-6	C2344-17	F13612-1
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	14	NA	124	NA
Carbon Dioxide			1050	NA	52.8	NA	172
Carbon, Total Organic			NA	5 U	NA	5 U	NA
Chloride	250		NA	20	NA	116	NA
Ethane			NA	NA	NA	1 J	NA
Ethene			NA	NA	NA	0.08 J	NA
Hardness (As CaCO3)	250		NA	30	NA	80	NA
Iron, Ferrous			7.4 J	NA	1.4	NA	2.5
Methane			NA	NA	NA	5	NA
Nitrogen, Ammonia as N			NA	1.16	NA	3.93	NA
Nitrogen, Kjeldahl			NA	1.061	NA	4.124	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			72 R	NA	2 U	NA	2 U
Oxygen Demand, Chemical			2260	NA	20 U	NA	20 U
Phosphorus-32			NA	0.1 U	NA	0.1 U	NA
Solids, Total Dissolved (Residue, Filter			NA	110	NA	385	NA
Solids, Total Suspended			NA	46	NA	34	NA
Sulfate	250		NA	17.3	NA	10.3	NA
Sulfide			NA	0.5 U	NA	0.5 U	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	5 U	NA	5 U	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	14	NA	124	NA
Carbon Dioxide			1050	NA	52.8	NA	172
Carbon, Total Organic			NA	5 U	NA	5 U	NA
Chloride	250		NA	20	NA	116	NA

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-13S	MA-MW-14D	MA-MW-14D	MA-MW-14R	MA-MW-14R
Sample ID	GWQC	MCL	BMA018	BMA019	BMA019	BMA020	BMA020
Sample Date			06/28/2002	06/18/2002	06/18/2002	06/18/2002	06/18/2002
Sample Interval			6.6 - 16.6 ft	170 - 188 ft	170 - 188 ft	109.5 - 119.5 ft	109.5 - 119.5 ft
CLP Sample ID			F13728-2	E2344-3	F13612-6	C2344-17	F13612-1
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	30	NA	80	NA
Iron, Ferrous			7.4 J	NA	1.4	NA	2.5
Nitrogen, Ammonia as N			NA	1.16	NA	3.93	NA
Nitrogen, Kjeldahl			NA	1.061	NA	4.124	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			72 R	NA	2 U	NA	2 U
Oxygen Demand, Chemical			2260	NA	20 U	NA	20 U
Phosphorus-32			NA	0.1 U	NA	0.1 U	NA
Solids, Total Dissolved (Residue, Filter			NA	110	NA	385	NA
Solids, Total Suspended			NA	46	NA	34	NA
Sulfate	250		NA	17.3	NA	10.3	NA
Sulfide			NA	0.5 U	NA	0.5 U	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	1 J	NA
Ethene			NA	NA	NA	0.08 J	NA
Methane			NA	NA	NA	5	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	0.04 UJ	NA	NA	NA
Ethane			NA	0.04 UJ	NA	NA	NA
Ethene			NA	0.04 J	NA	NA	NA
Ethene			NA	0.04 J	NA	NA	NA
Methane			NA	2 J	NA	NA	NA

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NA - Not analyzed
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(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-14S	MA-MW-14S	MA-MW-15M	MA-MW-15M	MA-MW-15S
Sample ID	GWQC	MCL	BMA021	BMA021	BMA022	BMA022	BMA023
Sample Date			06/18/2002	06/18/2002	06/19/2002	06/19/2002	06/19/2002
Sample Interval			7 - 20 ft	7 - 20 ft	59.4 - 69.4 ft	59.4 - 69.4 ft	6.8 - 16.8 ft
CLP Sample ID			C2344-18	F13612-2	E2344-8	F13630-5	E2344-9
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			392	NA	174	NA	1050
Carbon Dioxide			NA	445	NA	262	NA
Carbon, Total Organic			13.52	NA	5.131	NA	30.82
Chloride	250		55.6	NA	98.6	NA	27.2
Ethane			0.4 J	NA	NA	NA	NA
Ethene			0.06 J	NA	NA	NA	NA
Hardness (As CaCO3)	250		450 (A)	NA	320 (A)	NA	920 (A)
Iron, Ferrous			NA	0.21	NA	1.9	NA
Methane			2 U	NA	NA	NA	NA
Nitrogen, Ammonia as N			2.43	NA	3.51	NA	3.32
Nitrogen, Kjeldahl			3.018	NA	3.482	NA	5.147
Nitrogen, Nitrate as N	10		0.055	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	2 U	NA	2 U	NA
Oxygen Demand, Chemical			NA	42.2	NA	20 U	NA
Phosphorus-32			0.465	NA	1.562	NA	0.76
Solids, Total Dissolved (Residue, Filter			648	NA	406	NA	1080
Solids, Total Suspended			16.9 J	NA	16.7	NA	46
Sulfate	250		124	NA	45.6	NA	8.6
Sulfide			1.36	NA	0.5 U	NA	1.12
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			13.52	NA	5.131	NA	30.82
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			392	NA	174	NA	1050
Carbon Dioxide			NA	445	NA	262	NA
Carbon, Total Organic			13.52	NA	5.131	NA	30.82
Chloride	250		55.6	NA	98.6	NA	27.2

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NA - Not analyzed
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05/26/2004
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-14S	MA-MW-14S	MA-MW-15M	MA-MW-15M	MA-MW-15S
Sample ID	GWQC	MCL	BMA021	BMA021	BMA022	BMA022	BMA023
Sample Date			06/18/2002	06/18/2002	06/19/2002	06/19/2002	06/19/2002
Sample Interval			7 - 20 ft	7 - 20 ft	59.4 - 69.4 ft	59.4 - 69.4 ft	6.8 - 16.8 ft
CLP Sample ID			C2344-18	F13612-2	E2344-8	F13630-5	E2344-9
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO ₃)	250		450 (A)	NA	320 (A)	NA	920 (A)
Iron, Ferrous			NA	0.21	NA	1.9	NA
Nitrogen, Ammonia as N			2.43	NA	3.51	NA	3.32
Nitrogen, Kjeldahl			3.018	NA	3.482	NA	5.147
Nitrogen, Nitrate as N	10		0.055	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	2 U	NA	2 U	NA
Oxygen Demand, Chemical			NA	42.2	NA	20 U	NA
Phosphorus-32			0.465	NA	1.562	NA	0.76
Solids, Total Dissolved (Residue, Filter			648	NA	406	NA	1080
Solids, Total Suspended			16.9 J	NA	16.7	NA	46
Sulfate	250		124	NA	45.6	NA	8.6
Sulfide			1.36	NA	0.5 U	NA	1.12
General Chemistry - ug/l (ug/L)							
Ethane			0.4 J	NA	NA	NA	NA
Ethene			0.06 J	NA	NA	NA	NA
Methane			2 U	NA	NA	NA	NA
Volatile Organic Compounds (UG/L)							
Ethane			NA	NA	2	NA	0.8 U
Ethane			NA	NA	2	NA	0.8 U
Ethene			NA	NA	0.2 J	NA	15 U
Ethene			NA	NA	0.2 J	NA	15 U
Methane			NA	NA	25	NA	110

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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-15S	MA-MW-16S	MA-MW-16S	MA-MW-17M	MA-MW-17M
Sample ID	GWQC	MCL	BMA023	BMA024	BMA024	BMA025	BMA025
Sample Date			06/19/2002	06/27/2002	06/27/2002	06/14/2002	06/14/2002
Sample Interval			6.8 - 16.8 ft	6.5 - 16.5 ft	6.5 - 16.5 ft	41.82 - 51.82 ft	41.82 - 51.82 ft
CLP Sample ID			F13630-6	E2344-17	F13728-4	C2344-9	F13586-1
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	890	NA	228	NA
Carbon Dioxide			969	NA	926	NA	222
Carbon, Total Organic			NA	26.16	NA	5 U	NA
Chloride	250		NA	43.9	NA	93.8	NA
Ethane			NA	NA	NA	0.8 J	NA
Ethene			NA	NA	NA	2 U	NA
Hardness (As CaCO3)	250		NA	796 (A)	NA	294 (A)	NA
Iron, Ferrous			0.1 U	NA	1.1 J	NA	0.1 UJ
Methane			NA	NA	NA	8	NA
Nitrogen, Ammonia as N			NA	20	NA	0.876	NA
Nitrogen, Kjeldahl			NA	22.3	NA	1.061	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.07	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			7.1	NA	19.2 J	NA	5 UJ
Oxygen Demand, Chemical			85.1	NA	82.5	NA	20 U
Phosphorus-32			NA	1.222	NA	1.808	NA
Solids, Total Dissolved (Residue, Filter			NA	1040	NA	492	NA
Solids, Total Suspended			NA	68	NA	743	NA
Sulfate	250		NA	118	NA	80.2	NA
Sulfide			NA	2.52	NA	0.5 U	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	26.16	NA	5 U	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	890	NA	228	NA
Carbon Dioxide			969	NA	926	NA	222
Carbon, Total Organic			NA	26.16	NA	5 U	NA
Chloride	250		NA	43.9	NA	93.8	NA

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05/26/2004
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-15S	MA-MW-16S	MA-MW-16S	MA-MW-17M	MA-MW-17M
Sample ID	GWQC	MCL	BMA023	BMA024	BMA024	BMA025	BMA025
Sample Date			06/19/2002	06/27/2002	06/27/2002	06/14/2002	06/14/2002
Sample Interval			6.8 - 16.8 ft	6.5 - 16.5 ft	6.5 - 16.5 ft	41.82 - 51.82 ft	41.82 - 51.82 ft
CLP Sample ID			F13630-6	E2344-17	F13728-4	C2344-9	F13586-1
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	796 (A)	NA	294 (A)	NA
Iron, Ferrous			0.1 U	NA	1.1 J	NA	0.1 UJ
Nitrogen, Ammonia as N			NA	20	NA	0.876	NA
Nitrogen, Kjeldahl			NA	22.3	NA	1.061	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.07	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			7.1	NA	19.2 J	NA	5 UJ
Oxygen Demand, Chemical			85.1	NA	82.5	NA	20 U
Phosphorus-32			NA	1.222	NA	1.808	NA
Solids, Total Dissolved (Residue, Filter			NA	1040	NA	492	NA
Solids, Total Suspended			NA	68	NA	743	NA
Sulfate	250		NA	118	NA	80.2	NA
Sulfide			NA	2.52	NA	0.5 U	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	0.8 J	NA
Ethene			NA	NA	NA	2 U	NA
Methane			NA	NA	NA	8	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	10 UJ	NA	NA	NA
Ethane			NA	10 UJ	NA	NA	NA
Ethene			NA	150 UJ	NA	NA	NA
Ethene			NA	150 UJ	NA	NA	NA
Methane			NA	520 J	NA	NA	NA

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05/26/2004
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-17S	MA-MW-17S	MA-MW-18D	MA-MW-18D	MA-MW-18M
Sample ID	GWQC	MCL	BMA026	BMA026	BMA027	BMA027	BMA028
Sample Date			06/14/2002	06/14/2002	06/17/2002	06/17/2002	06/17/2002
Sample Interval			8 - 18 ft	8 - 18 ft	140 - 152 ft	140 - 152 ft	31.77 - 41.77 ft
CLP Sample ID			C2344-10	F13586-2	C2344-11	F13591-1	C2344-12
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			256	NA	50	NA	280
Carbon Dioxide			NA	277	NA	51.8	NA
Carbon, Total Organic			5 U	NA	5 U	NA	5 U
Chloride	250		29.4	NA	18.5	NA	56.2
Ethane			2 U	NA	0.06 J	NA	0.4 J
Ethene			2 U	NA	2 U	NA	0.2 J
Hardness (As CaCO3)	250		332 (A)	NA	80	NA	364 (A)
Iron, Ferrous			NA	0.1 UJ	NA	0.17	NA
Methane			2 U	NA	3	NA	26
Nitrogen, Ammonia as N			0.18	NA	1.41	NA	1.79
Nitrogen, Kjeldahl			0.4405	NA	1.329	NA	1.983
Nitrogen, Nitrate as N	10		4.8	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	2 UJ	NA	2 U	NA
Oxygen Demand, Chemical			NA	20 U	NA	20 U	NA
Phosphorus-32			0.1 U	NA	0.1 U	NA	0.138
Solids, Total Dissolved (Residue, Filter			445	NA	140	NA	469
Solids, Total Suspended			1.4	NA	138	NA	40
Sulfate	250		72.8	NA	24.3	NA	61.2
Sulfide			0.5 U	NA	0.52	NA	0.5 U
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			5 U	NA	5 U	NA	5 U
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			256	NA	50	NA	280
Carbon Dioxide			NA	277	NA	51.8	NA
Carbon, Total Organic			5 U	NA	5 U	NA	5 U
Chloride	250		29.4	NA	18.5	NA	56.2

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05/26/2004

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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-17S	MA-MW-17S	MA-MW-18D	MA-MW-18D	MA-MW-18M
Sample ID	GWQC	MCL	BMA026	BMA026	BMA027	BMA027	BMA028
Sample Date			06/14/2002	06/14/2002	06/17/2002	06/17/2002	06/17/2002
Sample Interval			8 - 18 ft	8 - 18 ft	140 - 152 ft	140 - 152 ft	31.77 - 41.77 ft
CLP Sample ID			C2344-10	F13586-2	C2344-11	F13591-1	C2344-12
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		332 (A)	NA	80	NA	364 (A)
Iron, Ferrous			NA	0.1 UJ	NA	0.17	NA
Nitrogen, Ammonia as N			0.18	NA	1.41	NA	1.79
Nitrogen, Kjeldahl			0.4405	NA	1.329	NA	1.983
Nitrogen, Nitrate as N	10		4.8	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	2 UJ	NA	2 U	NA
Oxygen Demand, Chemical			NA	20 U	NA	20 U	NA
Phosphorus-32			0.1 U	NA	0.1 U	NA	0.138
Solids, Total Dissolved (Residue, Filter			445	NA	140	NA	469
Solids, Total Suspended			1.4	NA	138	NA	40
Sulfate	250		72.8	NA	24.3	NA	61.2
Sulfide			0.5 U	NA	0.52	NA	0.5 U
General Chemistry - ug/l (ug/L)							
Ethane			2 U	NA	0.06 J	NA	0.4 J
Ethene			2 U	NA	2 U	NA	0.2 J
Methane			2 U	NA	3	NA	26
Volatile Organic Compounds (UG/L)							
Ethane			NA	NA	NA	NA	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA

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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-18M	MA-MW-18S	MA-MW-18S	MA-MW-19M	MA-MW-19M
Sample ID	GWQC	MCL	BMA028	BMA029	BMA029	BMA030	BMA030
Sample Date			06/17/2002	06/17/2002	06/17/2002	06/17/2002	06/17/2002
Sample Interval			31.77 - 41.77 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	42 - 52 ft	42 - 52 ft
CLP Sample ID			F13591-2	C2344-13	F13591-3	C2344-14	F13591-4
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	460	NA	180	NA
Carbon Dioxide			350	NA	472	NA	192
Carbon, Total Organic			NA	5 U	NA	5 U	NA
Chloride	250		NA	65.5	NA	2 U	NA
Ethane			NA	13 J	NA	0.3 J	NA
Ethene			NA	75 U	NA	0.2 J	NA
Hardness (As CaCO3)	250		NA	450 (A)	NA	230	NA
Iron, Ferrous			3.2	NA	0.98	NA	2.4
Methane			NA	480	NA	33	NA
Nitrogen, Ammonia as N			NA	3.82	NA	0.419	NA
Nitrogen, Kjeldahl			NA	4.327	NA	0.4825	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			2 U	NA	2 U	NA	2 U
Oxygen Demand, Chemical			20 U	NA	44.9	NA	20 U
Phosphorus-32			NA	0.505	NA	0.1 U	NA
Solids, Total Dissolved (Residue, Filter			NA	573	NA	335	NA
Solids, Total Suspended			NA	81	NA	62	NA
Sulfate	250		NA	5 U	NA	5 U	NA
Sulfide			NA	0.6	NA	0.5 U	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	5 U	NA	5 U	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	460	NA	180	NA
Carbon Dioxide			350	NA	472	NA	192
Carbon, Total Organic			NA	5 U	NA	5 U	NA
Chloride	250		NA	65.5	NA	2 U	NA

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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-18M	MA-MW-18S	MA-MW-18S	MA-MW-19M	MA-MW-19M
Sample ID	GWQC	MCL	BMA028	BMA029	BMA029	BMA030	BMA030
Sample Date			06/17/2002	06/17/2002	06/17/2002	06/17/2002	06/17/2002
Sample Interval			31.77 - 41.77 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	42 - 52 ft	42 - 52 ft
CLP Sample ID			F13591-2	C2344-13	F13591-3	C2344-14	F13591-4
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	450 (A)	NA	230	NA
Iron, Ferrous			3.2	NA	0.98	NA	2.4
Nitrogen, Ammonia as N			NA	3.82	NA	0.419	NA
Nitrogen, Kjeldahl			NA	4.327	NA	0.4825	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			2 U	NA	2 U	NA	2 U
Oxygen Demand, Chemical			20 U	NA	44.9	NA	20 U
Phosphorus-32			NA	0.505	NA	0.1 U	NA
Solids, Total Dissolved (Residue, Filter			NA	573	NA	335	NA
Solids, Total Suspended			NA	81	NA	62	NA
Sulfate	250		NA	5 U	NA	5 U	NA
Sulfide			NA	0.6	NA	0.5 U	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	13 J	NA	0.3 J	NA
Ethene			NA	75 U	NA	0.2 J	NA
Methane			NA	480	NA	33	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	NA	NA	NA	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA

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NA - Not analyzed
R- Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-19S	MA-MW-19S	MA-MW-20D	MA-MW-20D	MA-MW-20M
Sample ID	GWQC	MCL	BMA031	BMA031	BMA032	BMA032	BMA033
Sample Date			06/17/2002	06/17/2002	06/13/2002	06/13/2002	06/13/2002
Sample Interval			5.05 - 15.05 ft	5.05 - 15.05 ft	123 - 133 ft	123 - 133 ft	42 - 52 ft
CLP Sample ID			C2344-15	F13591-5	C2344-5	F13568-1	C2344-7
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			400	NA	10 U	NA	374
Carbon Dioxide			NA	382	NA	48.7	NA
Carbon, Total Organic			5 U	NA	5 U	NA	6.843
Chloride	250		86.6	NA	2230 (A)	NA	84.6
Ethane			75 U	NA	2 U	NA	1 J
Ethene			75 U	NA	2 U	NA	2 U
Hardness (As CaCO3)	250		362 (A)	NA	616 (A)	NA	380 (A)
Iron, Ferrous			NA	0.24	NA	15.3	NA
Methane			620	NA	2 U	NA	22
Nitrogen, Ammonia as N			11.7	NA	6.4	NA	6.38
Nitrogen, Kjeldahl			12.41	NA	6.591	NA	8.723
Nitrogen, Nitrate as N	10		0.05 U	NA	0.05 U	NA	0.055
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	7.5	NA	8	NA
Oxygen Demand, Chemical			NA	20 U	NA	42.6	NA
Phosphorus-32			0.616	NA	0.1 U	NA	0.1 U
Solids, Total Dissolved (Residue, Filter			566	NA	3520	NA	600
Solids, Total Suspended			25	NA	39	NA	103
Sulfate	250		52.4	NA	67.1	NA	53.3
Sulfide			0.78	NA	0.76	NA	0.5 U
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			5 U	NA	5 U	NA	6.843
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			400	NA	10 U	NA	374
Carbon Dioxide			NA	382	NA	48.7	NA
Carbon, Total Organic			5 U	NA	5 U	NA	6.843
Chloride	250		86.6	NA	2230 (A)	NA	84.6

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-19S	MA-MW-19S	MA-MW-20D	MA-MW-20D	MA-MW-20M
Sample ID	GWQC	MCL	BMA031	BMA031	BMA032	BMA032	BMA033
Sample Date			06/17/2002	06/17/2002	06/13/2002	06/13/2002	06/13/2002
Sample Interval			5.05 - 15.05 ft	5.05 - 15.05 ft	123 - 133 ft	123 - 133 ft	42 - 52 ft
CLP Sample ID			C2344-15	F13591-5	C2344-5	F13568-1	C2344-7
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		362 (A)	NA	616 (A)	NA	380 (A)
Iron, Ferrous			NA	0.24	NA	15.3	NA
Nitrogen, Ammonia as N			11.7	NA	6.4	NA	6.38
Nitrogen, Kjeldahl			12.41	NA	6.591	NA	8.723
Nitrogen, Nitrate as N	10		0.05 U	NA	0.05 U	NA	0.055
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	7.5	NA	8	NA
Oxygen Demand, Chemical			NA	20 U	NA	42.6	NA
Phosphorus-32			0.616	NA	0.1 U	NA	0.1 U
Solids, Total Dissolved (Residue, Filter			566	NA	3520	NA	600
Solids, Total Suspended			25	NA	39	NA	103
Sulfate	250		52.4	NA	67.1	NA	53.3
Sulfide			0.78	NA	0.76	NA	0.5 U
General Chemistry - ug/l (ug/L)							
Ethane			75 U	NA	2 U	NA	1 J
Ethene			75 U	NA	2 U	NA	2 U
Methane			620	NA	2 U	NA	22
Volatile Organic Compounds (mg/l)							
Ethane			NA	NA	NA	NA	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA

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(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-20M	MA-MW-20R	MA-MW-20R	MA-MW-20S	MA-MW-20S
Sample ID	GWQC	MCL	BMA033	BMA034	BMA034	BMA035	BMA035
Sample Date			06/13/2002	06/13/2002	06/13/2002	06/13/2002	06/13/2002
Sample Interval			42 - 52 ft	113 - 123 ft	113 - 123 ft	7.9 - 17.9 ft	7.9 - 17.9 ft
CLP Sample ID			F13568-3	C2344-6	F13568-2	C2344-8	F13568-4
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	10 U	NA	226	NA
Carbon Dioxide			436	NA	135	NA	251
Carbon, Total Organic			NA	5 U	NA	5 U	NA
Chloride	250		NA	1610 (A)	NA	101	NA
Ethane			NA	0.8 J	NA	2 U	NA
Ethene			NA	0.1 J	NA	2 U	NA
Hardness (As CaCO3)	250		NA	460 (A)	NA	340 (A)	NA
Iron, Ferrous			1.8	NA	15.8	NA	NA
Methane			NA	17	NA	2 U	NA
Nitrogen, Ammonia as N			NA	5.48	NA	0.1 U	NA
Nitrogen, Kjeldahl			NA	5.956	NA	0.953	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	7.03	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			4.8 U	NA	7.3 U	NA	2 U
Oxygen Demand, Chemical			23.9	NA	42.6	NA	20 U
Phosphorus-32			NA	0.1 U	NA	0.946	NA
Solids, Total Dissolved (Residue, Filter			NA	2810	NA	503	NA
Solids, Total Suspended			NA	51	NA	592	NA
Sulfate	250		NA	63.4	NA	57.9	NA
Sulfide			NA	0.6	NA	0.5 U	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	5 U	NA	5 U	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	10 U	NA	226	NA
Carbon Dioxide			436	NA	135	NA	251
Carbon, Total Organic			NA	5 U	NA	5 U	NA
Chloride	250		NA	1610 (A)	NA	101	NA

J - Reported value estimated in quantity
 NA - Not analyzed
 R - Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-20M	MA-MW-20R	MA-MW-20R	MA-MW-20S	MA-MW-20S
Sample ID	GWQC	MCL	BMA033	BMA034	BMA034	BMA035	BMA035
Sample Date			06/13/2002	06/13/2002	06/13/2002	06/13/2002	06/13/2002
Sample Interval			42 - 52 ft	113 - 123 ft	113 - 123 ft	7.9 - 17.9 ft	7.9 - 17.9 ft
CLP Sample ID			F13568-3	C2344-6	F13568-2	C2344-8	F13568-4
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	460 (A)	NA	340 (A)	NA
Iron, Ferrous			1.8	NA	15.8	NA	NA
Nitrogen, Ammonia as N			NA	5.48	NA	0.1 U	NA
Nitrogen, Kjeldahl			NA	5.956	NA	0.953	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	7.03	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			4.8 U	NA	7.3 U	NA	2 U
Oxygen Demand, Chemical			23.9	NA	42.6	NA	20 U
Phosphorus-32			NA	0.1 U	NA	0.946	NA
Solids, Total Dissolved (Residue, Filter			NA	2810	NA	503	NA
Solids, Total Suspended			NA	51	NA	592	NA
Sulfate	250		NA	63.4	NA	57.9	NA
Sulfide			NA	0.6	NA	0.5 U	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	0.8 J	NA	2 U	NA
Ethene			NA	0.1 J	NA	2 U	NA
Methane			NA	17	NA	2 U	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	NA	NA	NA	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA

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Exceedances highlighted

05/26/2004
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-20S	MA-MW-21S	MA-MW-21S	MA-MW-21S	MA-MW-22S
Sample ID	GWQC	MCL	BMA035	BMA036	BMA036	BMA036-D	BMA037
Sample Date			06/13/2002	06/12/2002	06/12/2002	06/12/2002	06/12/2002
Sample Interval			7.9 - 17.9 ft	10 - 21 ft	10 - 21 ft	10 - 21 ft	10 - 21 ft
CLP Sample ID			F13586-4	C2344-3	F13535-3	WG18087-3	C2344-4
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	434	NA	NA	198
Carbon Dioxide			NA	NA	448	NA	NA
Carbon, Total Organic			NA	11.24	NA	NA	5.225
Chloride	250		NA	91.5	NA	NA	99.4
Ethane			NA	2 U	NA	NA	2 U
Ethene			NA	2 U	NA	NA	2 U
Hardness (As CaCO3)	250		NA	414 (A)	NA	NA	310 (A)
Iron, Ferrous			0.1 U	NA	0.2	NA	NA
Methane			NA	2 U	NA	NA	1
Nitrogen, Ammonia as N			NA	0.644	NA	NA	0.1 U
Nitrogen, Kjeldahl			NA	0.9358	NA	NA	1.191
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	NA	3.17
Nitrogen, Nitrite	1		NA	0.05 U	NA	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	NA	2 U	NA	NA
Oxygen Demand, Chemical			NA	NA	20 U	NA	NA
Phosphorus-32			NA	0.282	NA	NA	1.136
Solids, Total Dissolved (Residue, Filter			NA	648	NA	661	510
Solids, Total Suspended			NA	130	NA	145	1610
Sulfate	250		NA	29.1	NA	NA	65.2
Sulfide			NA	0.6	NA	NA	0.5 U
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	11.24	NA	NA	5.225
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	434	NA	NA	198
Carbon Dioxide			NA	NA	448	NA	NA
Carbon, Total Organic			NA	11.24	NA	NA	5.225
Chloride	250		NA	91.5	NA	NA	99.4

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

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(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-20S	MA-MW-21S	MA-MW-21S	MA-MW-21S	MA-MW-22S
Sample ID	GWQC	MCL	BMA035	BMA036	BMA036	BMA036-D	BMA037
Sample Date			06/13/2002	06/12/2002	06/12/2002	06/12/2002	06/12/2002
Sample Interval			7.9 - 17.9 ft	10 - 21 ft	10 - 21 ft	10 - 21 ft	10 - 21 ft
CLP Sample ID			F13586-4	C2344-3	F13535-3	WG18087-3	C2344-4
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	414 (A)	NA	NA	310 (A)
Iron, Ferrous			0.1 U	NA	0.2	NA	NA
Nitrogen, Ammonia as N			NA	0.644	NA	NA	0.1 U
Nitrogen, Kjeldahl			NA	0.9358	NA	NA	1.191
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	NA	3.17
Nitrogen, Nitrite	1		NA	0.05 U	NA	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	NA	2 U	NA	NA
Oxygen Demand, Chemical			NA	NA	20 U	NA	NA
Phosphorus-32			NA	0.282	NA	NA	1.136
Solids, Total Dissolved (Residue, Filter			NA	648	NA	661	510
Solids, Total Suspended			NA	130	NA	145	1610
Sulfate	250		NA	29.1	NA	NA	65.2
Sulfide			NA	0.6	NA	NA	0.5 U
General Chemistry - ug/l (ug/L)							
Ethane			NA	2 U	NA	NA	2 U
Ethene			NA	2 U	NA	NA	2 U
Methane			NA	2 U	NA	NA	1
Volatile Organic Compounds (mg/l)							
Ethane			NA	NA	NA	NA	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA

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(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-22S	MA-MW-19R	MA-MW-19R	MA-MW-14S	MA-MW-09S
Sample ID	GWQC	MCL	BMA037	BMA038	BMA038	BMA039	BMA040
Sample Date			06/12/2002	06/17/2002	06/17/2002	06/18/2002	06/19/2002
Sample Interval			10 - 21 ft	103 - 113 ft	103 - 113 ft	7 - 20 ft	16 - 26 ft
CLP Sample ID			F13535-4	C2344-16	F13591-6	C2344-19	
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	12	NA	400	NA
Carbon Dioxide			267	NA	133	NA	NA
Carbon, Total Organic			NA	5 U	NA	13.47	NA
Chloride	250		NA	7060 (A)	NA	59.4	NA
Ethane			NA	0.1 J	NA	0.4 J	NA
Ethene			NA	2 U	NA	2 U	NA
Hardness (As CaCO3)	250		NA	800 (A)	NA	450 (A)	NA
Iron, Ferrous			0.1 U	NA	44.9	NA	NA
Methane			NA	9	NA	2 U	NA
Nitrogen, Ammonia as N			NA	7.5	NA	2.47	NA
Nitrogen, Kjeldahl			NA	7.876	NA	3.189	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			6	NA	5 U	NA	NA
Oxygen Demand, Chemical			21.3	NA	137	NA	NA
Phosphorus-32			NA	0.1 U	NA	0.453	NA
Solids, Total Dissolved (Residue, Filter			NA	10600	NA	672	NA
Solids, Total Suspended			NA	112	NA	10.6 J	NA
Sulfate	250		NA	282 (A)	NA	131	NA
Sulfide			NA	0.68	NA	1.28	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	5 U	NA	13.47	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	12	NA	400	NA
Carbon Dioxide			267	NA	133	NA	NA
Carbon, Total Organic			NA	5 U	NA	13.47	NA
Chloride	250		NA	7060 (A)	NA	59.4	NA

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

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GWQC - Groundwater Quality Criteria

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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-22S	MA-MW-19R	MA-MW-19R	MA-MW-14S	MA-MW-09S
Sample ID	GWQC	MCL	BMA037	BMA038	BMA038	BMA039	BMA040
Sample Date			06/12/2002	06/17/2002	06/17/2002	06/18/2002	06/19/2002
Sample Interval			10 - 21 ft	103 - 113 ft	103 - 113 ft	7 - 20 ft	16 - 26 ft
CLP Sample ID			F13535-4	C2344-16	F13591-6	C2344-19	
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	800 (A)	NA	450 (A)	NA
Iron, Ferrous			0.1 U	NA	44.9	NA	NA
Nitrogen, Ammonia as N			NA	7.5	NA	2.47	NA
Nitrogen, Kjeldahl			NA	7.876	NA	3.189	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			6	NA	5 U	NA	NA
Oxygen Demand, Chemical			21.3	NA	137	NA	NA
Phosphorus-32			NA	0.1 U	NA	0.453	NA
Solids, Total Dissolved (Residue, Filter			NA	10600	NA	672	NA
Solids, Total Suspended			NA	112	NA	10.6 J	NA
Sulfate	250		NA	282 (A)	NA	131	NA
Sulfide			NA	0.68	NA	1.28	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	0.1 J	NA	0.4 J	NA
Ethene			NA	2 U	NA	2 U	NA
Methane			NA	9	NA	2 U	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	NA	NA	NA	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA

J - Reported value estimated in quantity
 NA -Not analyzed
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(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-09S	MA-MW-01S	MA-MW-01S	MA-MW-01M	MA-MW-01M
Sample ID	GWQC	MCL	BMA040	CMA001	CMA001	CMA002	CMA002
Sample Date			06/19/2002	09/23/2002	09/23/2002	09/23/2002	09/23/2002
Sample Interval			16 - 26 ft	4 - 14 ft	4 - 14 ft	50 - 60 ft	50 - 60 ft
CLP Sample ID			E2344-7	F14721-3	K2344-5	F14721-2	K2344-4
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			354	NA	1520	NA	254
Carbon Dioxide			NA	1130	NA	268	NA
Carbon, Total Organic			7	NA	12.78	NA	6.191
Chloride	250		50.1	NA	105	NA	139
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		312 (A)	NA	964 J (A)	NA	342 (A)
Iron, Ferrous			NA	0.1 U	NA	3	NA
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			3.68	NA	37.4 J	NA	1.13 J
Nitrogen, Kjeldahl			3.894	NA	NA	NA	1.324 J
Nitrogen, Nitrate as N	10		0.14	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	15	NA	3 U	NA
Oxygen Demand, Chemical			NA	47	NA	20 U	NA
Phosphorus-32			0.1 U	NA	NA	NA	0.148 UJ
Solids, Total Dissolved (Residue, Filter			550	NA	4.6	NA	20.3
Solids, Total Suspended			21.1	NA	NA	NA	NA
Sulfate	250		94.1	NA	15.1	NA	111
Sulfide			0.5 U	NA	2.4	NA	0.5 U
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			7	NA	12.78	NA	6.191
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			354	NA	1520	NA	254
Carbon Dioxide			NA	1130	NA	268	NA
Carbon, Total Organic			7	NA	12.78	NA	6.191
Chloride	250		50.1	NA	105	NA	139

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-09S	MA-MW-01S	MA-MW-01S	MA-MW-01M	MA-MW-01M
Sample ID	GWQC	MCL	BMA040	CMA001	CMA001	CMA002	CMA002
Sample Date			06/19/2002	09/23/2002	09/23/2002	09/23/2002	09/23/2002
Sample Interval			16 - 26 ft	4 - 14 ft	4 - 14 ft	50 - 60 ft	50 - 60 ft
CLP Sample ID			E2344-7	F14721-3	K2344-5	F14721-2	K2344-4
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		312 (A)	NA	964 J (A)	NA	342 (A)
Iron, Ferrous			NA	0.1 U	NA	3	NA
Nitrogen, Ammonia as N			3.68	NA	37.4 J	NA	1.13 J
Nitrogen, Kjeldahl			3.894	NA	NA	NA	1.324 J
Nitrogen, Nitrate as N	10		0.14	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	15	NA	3 U	NA
Oxygen Demand, Chemical			NA	47	NA	20 U	NA
Phosphorus-32			0.1 U	NA	NA	NA	0.148 UJ
Solids, Total Dissolved (Residue, Filter			550	NA	4.6	NA	20.3
Solids, Total Suspended			21.1	NA	NA	NA	NA
Sulfate	250		94.1	NA	15.1	NA	111
Sulfide			0.5 U	NA	2.4	NA	0.5 U
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			4	NA	2 J	NA	0.9 J
Ethane			4	NA	2 J	NA	0.9 J
Ethene			0.04 J	NA	75 U	NA	1.5 U
Ethene			0.04 J	NA	75 U	NA	1.5 U
Methane			26 J	NA	280	NA	13

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-04S	MA-MW-04S	MA-MW-05S	MA-MW-05S	MA-MW-05S
Sample ID	GWQC	MCL	CMA003	CMA003	CMA004	CMA004	CMA004
Sample Date			09/17/2002	09/17/2002	09/25/2002	09/25/2002	09/25/2002
Sample Interval			4 - 14 ft	4 - 14 ft	6 - 16 ft	6 - 16 ft	6 - 16 ft
CLP Sample ID			F14639-1	I2344-1		F14762-1	K2344-14
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	260	NA	NA	1490
Carbon Dioxide			273	NA	NA	1340	NA
Carbon, Total Organic			NA	16.55	NA	NA	231
Chloride	250		NA	3.2	NA	NA	74.6
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		NA	260 (A)	NA	NA	1020 (A)
Iron, Ferrous			0.66 J	NA	NA	0.1 U	NA
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			NA	4.14 J	NA	NA	53.2
Nitrogen, Kjeldahl			NA	5.488 J	NA	NA	59.21
Nitrogen, Nitrate as N	10		NA	0.095 J	NA	NA	0.05 U
Nitrogen, Nitrite	1		NA	0.05 U	NA	NA	0.05 U
Oxygen Demand, Biologic Five Day			18.8 J	NA	NA	15	NA
Oxygen Demand, Chemical			43.2	NA	NA	124	NA
Phosphorus-32			NA	0.7 UJ	NA	NA	NA
Solids, Total Dissolved (Residue, Filter			NA	9.4	NA	NA	1 U
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	9.34 J	NA	NA	5 U
Sulfide			NA	0.96 U	NA	NA	2.84
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	16.55	NA	NA	231
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	260	NA	NA	1490
Carbon Dioxide			273	NA	NA	1340	NA
Carbon, Total Organic			NA	16.55	NA	NA	231
Chloride	250		NA	3.2	NA	NA	74.6

J - Reported value estimated in quantity

NA -Not analyzed

R- Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-04S	MA-MW-04S	MA-MW-05S	MA-MW-05S	MA-MW-05S
Sample ID	GWQC	MCL	CMA003	CMA003	CMA004	CMA004	CMA004
Sample Date			09/17/2002	09/17/2002	09/25/2002	09/25/2002	09/25/2002
Sample Interval			4 - 14 ft	4 - 14 ft	6 - 16 ft	6 - 16 ft	6 - 16 ft
CLP Sample ID			F14639-1	I2344-1		F14762-1	K2344-14
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	260 (A)	NA	NA	1020 (A)
Iron, Ferrous			0.66 J	NA	NA	0.1 U	NA
Nitrogen, Ammonia as N			NA	4.14 J	NA	NA	53.2
Nitrogen, Kjeldahl			NA	5.488 J	NA	NA	59.21
Nitrogen, Nitrate as N	10		NA	0.095 J	NA	NA	0.05 U
Nitrogen, Nitrite	1		NA	0.05 U	NA	NA	0.05 U
Oxygen Demand, Biologic Five Day			18.8 J	NA	NA	15	NA
Oxygen Demand, Chemical			43.2	NA	NA	124	NA
Phosphorus-32			NA	0.7 UJ	NA	NA	NA
Solids, Total Dissolved (Residue, Filter			NA	9.4	NA	NA	1 U
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	9.34 J	NA	NA	5 U
Sulfide			NA	0.96 U	NA	NA	2.84
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	15 U	NA	NA	150 U
Ethane			NA	15 U	NA	NA	150 U
Ethene			NA	15 U	NA	NA	150 U
Ethene			NA	15 U	NA	NA	150 U
Methane			NA	150 J	NA	NA	890

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05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-08S	MA-MW-08S	MA-MW-08S	MA-MW-09S	MA-MW-09S
Sample ID	GWQC	MCL	CMA005	CMA005	CMA005-D	CMA006	CMA006
Sample Date			09/17/2002	09/17/2002	09/17/2002	09/19/2002	09/19/2002
Sample Interval			4 - 14 ft	4 - 14 ft	4 - 14 ft	16 - 26 ft	16 - 26 ft
CLP Sample ID			F14639-6	I2344-6	WG20270-3	F14692-1	I2344-12
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	658	NA	NA	340
Carbon Dioxide			674	NA	NA	479	NA
Carbon, Total Organic			NA	24.65	NA	NA	6.794
Chloride	250		NA	8.87	NA	NA	55.1
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		NA	566 (A)	NA	NA	320 (A)
Iron, Ferrous			1.2	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			NA	11.7 J	NA	NA	5.2 J
Nitrogen, Kjeldahl			NA	13.37 J	NA	NA	6.089 J
Nitrogen, Nitrate as N	10		NA	0.05 UJ	NA	NA	0.2
Nitrogen, Nitrite	1		NA	0.05 U	NA	NA	0.05 U
Oxygen Demand, Biologic Five Day			5.6 J	NA	NA	8.7 J	NA
Oxygen Demand, Chemical			70.2	NA	NA	38.9	NA
Phosphorus-32			NA	0.762 UJ	NA	NA	0.1 UJ
Solids, Total Dissolved (Residue, Filter			NA	40	40	NA	56
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	5 U	NA	NA	71
Sulfide			NA	1.28 UJ	NA	NA	0.5 U
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	24.65	NA	NA	6.794
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	658	NA	NA	340
Carbon Dioxide			674	NA	NA	479	NA
Carbon, Total Organic			NA	24.65	NA	NA	6.794
Chloride	250		NA	8.87	NA	NA	55.1

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-08S	MA-MW-08S	MA-MW-08S	MA-MW-09S	MA-MW-09S
Sample ID	GWQC	MCL	CMA005	CMA005	CMA005-D	CMA006	CMA006
Sample Date			09/17/2002	09/17/2002	09/17/2002	09/19/2002	09/19/2002
Sample Interval			4 - 14 ft	4 - 14 ft	4 - 14 ft	16 - 26 ft	16 - 26 ft
CLP Sample ID			F14639-6	I2344-6	WG20270-3	F14692-1	I2344-12
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	566 (A)	NA	NA	320 (A)
Iron, Ferrous			1.2	NA	NA	NA	NA
Nitrogen, Ammonia as N			NA	11.7 J	NA	NA	5.2 J
Nitrogen, Kjeldahl			NA	13.37 J	NA	NA	6.089 J
Nitrogen, Nitrate as N	10		NA	0.05 UJ	NA	NA	0.2
Nitrogen, Nitrite	1		NA	0.05 U	NA	NA	0.05 U
Oxygen Demand, Biologic Five Day			5.6 J	NA	NA	8.7 J	NA
Oxygen Demand, Chemical			70.2	NA	NA	38.9	NA
Phosphorus-32			NA	0.762 UJ	NA	NA	0.1 UJ
Solids, Total Dissolved (Residue, Filter			NA	40	40	NA	56
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	5 U	NA	NA	71
Sulfide			NA	1.28 UJ	NA	NA	0.5 U
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	150 U	NA	NA	3
Ethane			NA	150 U	NA	NA	3
Ethene			NA	150 U	NA	NA	1.5 U
Ethene			NA	150 U	NA	NA	1.5 U
Methane			NA	780	NA	NA	26

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 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-09D	MA-MW-09D	MA-MW-10S	MA-MW-10S	MA-MW-11S
Sample ID	GWQC	MCL	CMA007	CMA007	CMA008	CMA008	CMA009
Sample Date			09/19/2002	09/19/2002	09/19/2002	09/19/2002	09/23/2002
Sample Interval			44 - 54 ft	44 - 54 ft	8 - 18 ft	8 - 18 ft	11 - 21 ft
CLP Sample ID			F14692-2	I2344-13	F14692-5	I2344-16	F14721-4
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	290	NA	486	NA
Carbon Dioxide			352	NA	441	NA	235
Carbon, Total Organic			NA	5 U	NA	13.79	NA
Chloride	250		NA	85.2	NA	67.8	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		NA	290 (A)	NA	490 (A)	NA
Iron, Ferrous			1.7	NA	NA	NA	0.1 U
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			NA	5.46 J	NA	4.49 J	NA
Nitrogen, Kjeldahl			NA	6.181 J	NA	5.751 J	NA
Nitrogen, Nitrate as N	10		NA	0.095	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			NA	NA	55 J	NA	3 U
Oxygen Demand, Chemical			NA	NA	33.4	NA	20 U
Phosphorus-32			NA	0.1 UJ	NA	0.721 UJ	NA
Solids, Total Dissolved (Residue, Filter			NA	23.3	NA	29.5	NA
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	73	NA	82.4	NA
Sulfide			NA	0.5 U	NA	0.5 U	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	5 U	NA	13.79	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	290	NA	486	NA
Carbon Dioxide			352	NA	441	NA	235
Carbon, Total Organic			NA	5 U	NA	13.79	NA
Chloride	250		NA	85.2	NA	67.8	NA

J - Reported value estimated in quantity

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Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-09D	MA-MW-09D	MA-MW-10S	MA-MW-10S	MA-MW-11S
Sample ID	GWQC	MCL	CMA007	CMA007	CMA008	CMA008	CMA009
Sample Date			09/19/2002	09/19/2002	09/19/2002	09/19/2002	09/23/2002
Sample Interval			44 - 54 ft	44 - 54 ft	8 - 18 ft	8 - 18 ft	11 - 21 ft
CLP Sample ID			F14692-2	I2344-13	F14692-5	I2344-16	F14721-4
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	290 (A)	NA	490 (A)	NA
Iron, Ferrous			1.7	NA	NA	NA	0.1 U
Nitrogen, Ammonia as N			NA	5.46 J	NA	4.49 J	NA
Nitrogen, Kjeldahl			NA	6.181 J	NA	5.751 J	NA
Nitrogen, Nitrate as N	10		NA	0.095	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			NA	NA	55 J	NA	3 U
Oxygen Demand, Chemical			NA	NA	33.4	NA	20 U
Phosphorus-32			NA	0.1 UJ	NA	0.721 UJ	NA
Solids, Total Dissolved (Residue, Filter			NA	23.3	NA	29.5	NA
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	73	NA	82.4	NA
Sulfide			NA	0.5 U	NA	0.5 U	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	3 U	NA	15 U	NA
Ethane			NA	3 U	NA	15 U	NA
Ethene			NA	3 U	NA	15 U	NA
Ethene			NA	3 U	NA	15 U	NA
Methane			NA	37	NA	120	NA

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05/26/2004
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-11S	MA-MW-11M	MA-MW-11M	MA-MW-12S	MA-MW-12S
Sample ID	GWQC	MCL	CMA009	CMA010	CMA010	CMA011	CMA011
Sample Date			09/23/2002	09/23/2002	09/23/2002	09/24/2002	09/24/2002
Sample Interval			11 - 21 ft	46 - 56 ft	46 - 56 ft	5.4 - 15.4 ft	5.4 - 15.4 ft
CLP Sample ID			K2344-6	F14721-5	K2344-7	F14738-1	K2344-8
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			182	NA	420	NA	446
Carbon Dioxide			NA	438	NA	558	NA
Carbon, Total Organic			5 U	NA	7.498	NA	25.27
Chloride	250		14.7	NA	78	NA	63.9
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		252 (A)	NA	344 (A)	NA	444 (A)
Iron, Ferrous			NA	0.1 U	NA	0.1 U	NA
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			0.1 UJ	NA	10.5 J	NA	6.65 J
Nitrogen, Kjeldahl			0.4843 UJ	NA	12.42 J	NA	8.622 J
Nitrogen, Nitrate as N	10		4.88	NA	0.63	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	3 U	NA	3 U	NA
Oxygen Demand, Chemical			NA	20 U	NA	69	NA
Phosphorus-32			0.123 UJ	NA	0.106 UJ	NA	1.24 J
Solids, Total Dissolved (Residue, Filter			72.3	NA	8.8	NA	5.4
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		78.7	NA	43.2	NA	166
Sulfide			0.5 U	NA	0.5 U	NA	0.6 U
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			5 U	NA	7.498	NA	25.27
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			182	NA	420	NA	446
Carbon Dioxide			NA	438	NA	558	NA
Carbon, Total Organic			5 U	NA	7.498	NA	25.27
Chloride	250		14.7	NA	78	NA	63.9

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-11S	MA-MW-11M	MA-MW-11M	MA-MW-12S	MA-MW-12S
Sample ID	GWQC	MCL	CMA009	CMA010	CMA010	CMA011	CMA011
Sample Date			09/23/2002	09/23/2002	09/23/2002	09/24/2002	09/24/2002
Sample Interval			11 - 21 ft	46 - 56 ft	46 - 56 ft	5.4 - 15.4 ft	5.4 - 15.4 ft
CLP Sample ID			K2344-6	F14721-5	K2344-7	F14738-1	K2344-8
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		252 (A)	NA	344 (A)	NA	444 (A)
Iron, Ferrous			NA	0.1 U	NA	0.1 U	NA
Nitrogen, Ammonia as N			0.1 UJ	NA	10.5 J	NA	6.65 J
Nitrogen, Kjeldahl			0.4843 UJ	NA	12.42 J	NA	8.622 J
Nitrogen, Nitrate as N	10		4.88	NA	0.63	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	3 U	NA	3 U	NA
Oxygen Demand, Chemical			NA	20 U	NA	69	NA
Phosphorus-32			0.123 UJ	NA	0.106 UJ	NA	1.24 J
Solids, Total Dissolved (Residue, Filter			72.3	NA	8.8	NA	5.4
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		78.7	NA	43.2	NA	166
Sulfide			0.5 U	NA	0.5 U	NA	0.6 U
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			1.5 U	NA	4	NA	5 J
Ethane			1.5 U	NA	4	NA	5 J
Ethene			1.5 U	NA	1.5 U	NA	7.5 U
Ethene			1.5 U	NA	1.5 U	NA	7.5 U
Methane			1.5 U	NA	16	NA	36

J - Reported value estimated in quantity
NA - Not analyzed
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U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

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GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-12M	MA-MW-12M	MA-MW-13S	MA-MW-13S	MA-MW-13M
Sample ID	GWQC	MCL	CMA012	CMA012	CMA013	CMA013	CMA014
Sample Date			09/24/2002	09/24/2002	09/25/2002	09/25/2002	09/25/2002
Sample Interval			38.1 - 48.1 ft	38.1 - 48.1 ft	6.6 - 16.6 ft	6.6 - 16.6 ft	48.35 - 58.35 ft
CLP Sample ID			F14738-2	K2344-9	F14762-2	K2344-15	F14762-3
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	296	NA	1300	NA
Carbon Dioxide			316	NA	1720	NA	324
Carbon, Total Organic			NA	5 U	NA	1925	NA
Chloride	250		NA	108	NA	168	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		NA	348 (A)	NA	1570 (A)	NA
Iron, Ferrous			2	NA	2	NA	2
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			NA	2.62 J	NA	208	NA
Nitrogen, Kjeldahl			NA	3.071 J	NA	372	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.135	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.08	NA
Oxygen Demand, Biologic Five Day			3 U	NA	50	NA	3 U
Oxygen Demand, Chemical			21	NA	5130	NA	20 U
Phosphorus-32			NA	2.34 J	NA	1	NA
Solids, Total Dissolved (Residue, Filter			NA	345	NA	NA	NA
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	94.5	NA	54.2	NA
Sulfide			NA	0.5 U	NA	49.6	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	5 U	NA	1925	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	296	NA	1300	NA
Carbon Dioxide			316	NA	1720	NA	324
Carbon, Total Organic			NA	5 U	NA	1925	NA
Chloride	250		NA	108	NA	168	NA

J - Reported value estimated in quantity

NA -Not analyzed

R- Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-12M	MA-MW-12M	MA-MW-13S	MA-MW-13S	MA-MW-13M
Sample ID	GWQC	MCL	CMA012	CMA012	CMA013	CMA013	CMA014
Sample Date			09/24/2002	09/24/2002	09/25/2002	09/25/2002	09/25/2002
Sample Interval			38.1 - 48.1 ft	38.1 - 48.1 ft	6.6 - 16.6 ft	6.6 - 16.6 ft	48.35 - 58.35 ft
CLP Sample ID			F14738-2	K2344-9	F14762-2	K2344-15	F14762-3
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	348 (A)	NA	1570 (A)	NA
Iron, Ferrous			2	NA	2	NA	2
Nitrogen, Ammonia as N			NA	2.62 J	NA	208	NA
Nitrogen, Kjeldahl			NA	3.071 J	NA	372	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.135	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.08	NA
Oxygen Demand, Biologic Five Day			3 U	NA	50	NA	3 U
Oxygen Demand, Chemical			21	NA	5130	NA	20 U
Phosphorus-32			NA	2.34 J	NA	1	NA
Solids, Total Dissolved (Residue, Filter			NA	345	NA	NA	NA
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	94.5	NA	54.2	NA
Sulfide			NA	0.5 U	NA	49.6	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	0.8 J	NA	2	NA
Ethane			NA	0.8 J	NA	2	NA
Ethene			NA	1.5 U	NA	0.9 J	NA
Ethene			NA	1.5 U	NA	0.9 J	NA
Methane			NA	24	NA	950	NA

J - Reported value estimated in quantity
NA - Not analyzed
R - Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-13M	MA-MW-14S	MA-MW-14S	MA-MW-14R	MA-MW-14R
Sample ID	GWQC	MCL	CMA014	CMA015	CMA015	CMA016	CMA016
Sample Date			09/25/2002	09/24/2002	09/24/2002	09/24/2002	09/24/2002
Sample Interval			48.35 - 58.35 ft	7 - 20 ft	7 - 20 ft	109.5 - 119.5 ft	109.5 - 119.5 ft
CLP Sample ID			K2344-16	F14738-3	K2344-10	F14738-4	K2344-11
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO ₃			284	NA	170	NA	146
Carbon Dioxide			NA	577	NA	190	NA
Carbon, Total Organic			5 U	NA	15.65	NA	5 U
Chloride	250		97.3	NA	43.8	NA	145
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO ₃)	250		484 (A)	NA	480 (A)	NA	160
Iron, Ferrous			NA	0.1 U	NA	3	NA
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			0.496	NA	3.46 J	NA	4.5 J
Nitrogen, Kjeldahl			0.8565	NA	4.188 J	NA	4.554 J
Nitrogen, Nitrate as N	10		0.05 U	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	3 U	NA	3 U	NA
Oxygen Demand, Chemical			NA	37	NA	20 U	NA
Phosphorus-32			1.16	NA	0.669 UJ	NA	0.1 UJ
Solids, Total Dissolved (Residue, Filter			20.3	NA	5	NA	39
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		88.1	NA	81.9	NA	13.9
Sulfide			0.5 U	NA	0.66 U	NA	0.5 U
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			5 U	NA	15.65	NA	5 U
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO ₃			284	NA	170	NA	146
Carbon Dioxide			NA	577	NA	190	NA
Carbon, Total Organic			5 U	NA	15.65	NA	5 U
Chloride	250		97.3	NA	43.8	NA	145

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

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GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-13M	MA-MW-14S	MA-MW-14S	MA-MW-14R	MA-MW-14R
Sample ID	GWQC	MCL	CMA014	CMA015	CMA015	CMA016	CMA016
Sample Date			09/25/2002	09/24/2002	09/24/2002	09/24/2002	09/24/2002
Sample Interval			48.35 - 58.35 ft	7 - 20 ft	7 - 20 ft	109.5 - 119.5 ft	109.5 - 119.5 ft
CLP Sample ID			K2344-16	F14738-3	K2344-10	F14738-4	K2344-11
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		484 (A)	NA	480 (A)	NA	160
Iron, Ferrous			NA	0.1 U	NA	3	NA
Nitrogen, Ammonia as N			0.496	NA	3.46 J	NA	4.5 J
Nitrogen, Kjeldahl			0.8565	NA	4.188 J	NA	4.554 J
Nitrogen, Nitrate as N	10		0.05 U	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	3 U	NA	3 U	NA
Oxygen Demand, Chemical			NA	37	NA	20 U	NA
Phosphorus-32			1.16	NA	0.669 UJ	NA	0.1 UJ
Solids, Total Dissolved (Residue, Filter			20.3	NA	5	NA	39
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		88.1	NA	81.9	NA	13.9
Sulfide			0.5 U	NA	0.66 U	NA	0.5 U
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (UG/L)							
Ethane			0.6 J	NA	3 J	NA	4
Ethane			0.6 J	NA	3 J	NA	4
Ethene			1.5 U	NA	7.5 U	NA	1.5 U
Ethene			1.5 U	NA	7.5 U	NA	1.5 U
Methane			18	NA	20	NA	15

J - Reported value estimated in quantity
 NA -Not analyzed
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(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-14R	MA-MW-14D	MA-MW-14D	MA-MW-15S	MA-MW-15S
Sample ID	GWQC	MCL	CMA016-D	CMA017	CMA017	CMA018	CMA018
Sample Date			09/24/2002	09/24/2002	09/24/2002	09/25/2002	09/25/2002
Sample Interval			109.5 - 119.5 ft	170 - 188 ft	170 - 188 ft	6.8 - 16.8 ft	6.8 - 16.8 ft
CLP Sample ID			WG20351-3	F14738-5	K2344-12	F14762-4	K2344-17
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	NA	16	NA	1050
Carbon Dioxide			NA	60	NA	1070	NA
Carbon, Total Organic			NA	NA	5 U	NA	36.63
Chloride	250		NA	NA	22.3	NA	15.7
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		NA	NA	320 (A)	NA	1120 (A)
Iron, Ferrous			NA	0.1 U	NA	0.1 U	NA
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			NA	NA	1.22 J	NA	4.33
Nitrogen, Kjeldahl			NA	NA	1.398 J	NA	6.321
Nitrogen, Nitrate as N	10		NA	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		NA	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	3 U	NA	4	NA
Oxygen Demand, Chemical			NA	20 U	NA	78	NA
Phosphorus-32			NA	NA	0.186 UJ	NA	0.852
Solids, Total Dissolved (Residue, Filter			46.5	NA	99	NA	25.5
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	NA	18.5	NA	5.34
Sulfide			NA	NA	0.5 U	NA	0.88 U
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	NA	5 U	NA	36.63
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	NA	16	NA	1050
Carbon Dioxide			NA	60	NA	1070	NA
Carbon, Total Organic			NA	NA	5 U	NA	36.63
Chloride	250		NA	NA	22.3	NA	15.7

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-14R	MA-MW-14D	MA-MW-14D	MA-MW-15S	MA-MW-15S
Sample ID	GWQC	MCL	CMA016-D	CMA017	CMA017	CMA018	CMA018
Sample Date			09/24/2002	09/24/2002	09/24/2002	09/25/2002	09/25/2002
Sample Interval			109.5 - 119.5 ft	170 - 188 ft	170 - 188 ft	6.8 - 16.8 ft	6.8 - 16.8 ft
CLP Sample ID			WG20351-3	F14738-5	K2344-12	F14762-4	K2344-17
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	NA	320 (A)	NA	1120 (A)
Iron, Ferrous			NA	0.1 U	NA	0.1 U	NA
Nitrogen, Ammonia as N			NA	NA	1.22 J	NA	4.33
Nitrogen, Kjeldahl			NA	NA	1.398 J	NA	6.321
Nitrogen, Nitrate as N	10		NA	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		NA	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	3 U	NA	4	NA
Oxygen Demand, Chemical			NA	20 U	NA	78	NA
Phosphorus-32			NA	NA	0.186 UJ	NA	0.852
Solids, Total Dissolved (Residue, Filter			46.5	NA	99	NA	25.5
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	NA	18.5	NA	5.34
Sulfide			NA	NA	0.5 U	NA	0.88 U
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	NA	1.5 U	NA	12 J
Ethane			NA	NA	1.5 U	NA	12 J
Ethene			NA	NA	1.5 U	NA	12 J
Ethene			NA	NA	1.5 U	NA	12 J
Methane			NA	NA	5	NA	62

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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-17M	MA-MW-17M	MA-MW-15M	MA-MW-15M	MA-MW-16S
Sample ID	GWQC	MCL	CMA019	CMA019	CMA020	CMA020	CMA021
Sample Date			09/18/2002	09/18/2002	09/23/2002	09/23/2002	09/25/2002
Sample Interval			41.82 - 51.82 ft	41.82 - 51.82 ft	59.4 - 69.4 ft	59.4 - 69.4 ft	6.5 - 16.5 ft
CLP Sample ID			F14664-4	I2344-10	F14721-1	K2344-3	F14762-5
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO ₃			NA	230	NA	182	NA
Carbon Dioxide			273	NA	247	NA	1130
Carbon, Total Organic			NA	5.163	NA	5 U	NA
Chloride	250		NA	73	NA	106	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO ₃)	250		NA	280 (A)	NA	210	NA
Iron, Ferrous			NA	NA	11	NA	0.1 U
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			NA	0.832 J	NA	3.51 J	NA
Nitrogen, Kjeldahl			NA	1.11 J	NA	3.946 J	NA
Nitrogen, Nitrate as N	10		NA	0.205	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			NA	NA	3 U	NA	15
Oxygen Demand, Chemical			NA	NA	21	NA	94
Phosphorus-32			NA	2.77 J	NA	3.22 J	NA
Solids, Total Dissolved (Residue, Filter			NA	164	NA	39.3	NA
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	69	NA	54.8	NA
Sulfide			NA	0.5 UJ	NA	0.5 U	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	5.163	NA	5 U	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO ₃			NA	230	NA	182	NA
Carbon Dioxide			273	NA	247	NA	1130
Carbon, Total Organic			NA	5.163	NA	5 U	NA
Chloride	250		NA	73	NA	106	NA

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Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-17M	MA-MW-17M	MA-MW-15M	MA-MW-15M	MA-MW-16S
Sample ID	GWQC	MCL	CMA019	CMA019	CMA020	CMA020	CMA021
Sample Date			09/18/2002	09/18/2002	09/23/2002	09/23/2002	09/25/2002
Sample Interval			41.82 - 51.82 ft	41.82 - 51.82 ft	59.4 - 69.4 ft	59.4 - 69.4 ft	6.5 - 16.5 ft
CLP Sample ID			F14664-4	I2344-10	F14721-1	K2344-3	F14762-5
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	280 (A)	NA	210	NA
Iron, Ferrous			NA	NA	11	NA	0.1 U
Nitrogen, Ammonia as N			NA	0.832 J	NA	3.51 J	NA
Nitrogen, Kjeldahl			NA	1.11 J	NA	3.946 J	NA
Nitrogen, Nitrate as N	10		NA	0.205	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			NA	NA	3 U	NA	15
Oxygen Demand, Chemical			NA	NA	21	NA	94
Phosphorus-32			NA	2.77 J	NA	3.22 J	NA
Solids, Total Dissolved (Residue, Filter			NA	164	NA	39.3	NA
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	69	NA	54.8	NA
Sulfide			NA	0.5 UJ	NA	0.5 U	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	1.5 U	NA	2	NA
Ethane			NA	1.5 U	NA	2	NA
Ethene			NA	1.5 U	NA	1.5 U	NA
Ethene			NA	1.5 U	NA	1.5 U	NA
Methane			NA	1.5 U	NA	16	NA

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Exceedances highlighted

05/26/2004
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-16S	MA-MW-17S	MA-MW-17S	MA-MW-21S	MA-MW-21S
Sample ID	GWQC	MCL	CMA021	CMA022	CMA022	CMA023	CMA023
Sample Date			09/25/2002	09/18/2002	09/18/2002	09/17/2002	09/17/2002
Sample Interval			6.5 - 16.5 ft	8 - 18 ft	8 - 18 ft	10 - 21 ft	10 - 21 ft
CLP Sample ID			K2344-18	F14664-5	I2344-11	F14639-4	I2344-4
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO ₃			276	NA	290	NA	460
Carbon Dioxide			NA	345	NA	720 J	NA
Carbon, Total Organic			39.58	NA	5.232	NA	7.988
Chloride	250		40.2	NA	41	NA	72.7
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO ₃)	250		1060 (A)	NA	328 (A)	NA	2408 (A)
Iron, Ferrous			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			33	NA	0.565 J	NA	1.63 J
Nitrogen, Kjeldahl			39.62	NA	0.7709 UJ	NA	2.193 J
Nitrogen, Nitrate as N	10		0.05 U	NA	0.05 U	NA	0.055
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	NA	NA	NA	NA
Oxygen Demand, Chemical			NA	NA	NA	29.7	NA
Phosphorus-32			2.6	NA	0.152 UJ	NA	0.961 J
Solids, Total Dissolved (Residue, Filter			32.3	NA	6.75	NA	260 J
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		65	NA	45.9	NA	22.8
Sulfide			3.04	NA	0.5 U	NA	0.72 U
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			39.58	NA	5.232	NA	7.988
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO ₃			276	NA	290	NA	460
Carbon Dioxide			NA	345	NA	720 J	NA
Carbon, Total Organic			39.58	NA	5.232	NA	7.988
Chloride	250		40.2	NA	41	NA	72.7

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

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GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-16S	MA-MW-17S	MA-MW-17S	MA-MW-21S	MA-MW-21S
Sample ID	GWQC	MCL	CMA021	CMA022	CMA022	CMA023	CMA023
Sample Date			09/25/2002	09/18/2002	09/18/2002	09/17/2002	09/17/2002
Sample Interval			6.5 - 16.5 ft	8 - 18 ft	8 - 18 ft	10 - 21 ft	10 - 21 ft
CLP Sample ID			K2344-18	F14664-5	I2344-11	F14639-4	I2344-4
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		1060 (A)	NA	328 (A)	NA	408 (A)
Iron, Ferrous			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			33	NA	0.565 J	NA	1.63 J
Nitrogen, Kjeldahl			39.62	NA	0.7709 UJ	NA	2.193 J
Nitrogen, Nitrate as N	10		0.05 U	NA	0.05 U	NA	0.055
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	NA	NA	NA	NA
Oxygen Demand, Chemical			NA	NA	NA	29.7	NA
Phosphorus-32			2.6	NA	0.152 UJ	NA	0.961 J
Solids, Total Dissolved (Residue, Filter			32.3	NA	6.75	NA	260 J
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		65	NA	45.9	NA	22.8
Sulfide			3.04	NA	0.5 U	NA	0.72 U
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			12	NA	1.5 U	NA	1.5 U
Ethane			12	NA	1.5 U	NA	1.5 U
Ethene			2	NA	1.5 U	NA	1.5 U
Ethene			2	NA	1.5 U	NA	1.5 U
Methane			1200	NA	1.5 U	NA	27

J - Reported value estimated in quantity
NA - Not analyzed
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U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-22S	MA-MW-22S	MA-MW-18S	MA-MW-18S	MA-MW-18M
Sample ID	GWQC	MCL	CMA024	CMA024	CMA025	CMA025	CMA026
Sample Date			09/17/2002	09/17/2002	09/18/2002	09/18/2002	09/18/2002
Sample Interval			10 - 21 ft	10 - 21 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	31.77 - 41.77 ft
CLP Sample ID			F14639-3	I2344-3	F14664-2	I2344-8	F14664-3
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	230	NA	456	NA
Carbon Dioxide			305	NA	485	NA	374
Carbon, Total Organic			NA	5 U	NA	5.043	NA
Chloride	250		NA	74.1	NA	29.7	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		NA	276 (A)	NA	390 (A)	NA
Iron, Ferrous			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			NA	0.1 UJ	NA	4.3 J	NA
Nitrogen, Kjeldahl			NA	0.4566 UJ	NA	4.864 J	NA
Nitrogen, Nitrate as N	10		NA	3.24	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			NA	NA	13.4	NA	NA
Oxygen Demand, Chemical			NA	NA	21.6	NA	NA
Phosphorus-32			NA	0.1 UJ	NA	0.598 UJ	NA
Solids, Total Dissolved (Residue, Filter			NA	6.9	NA	48	NA
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	66.9	NA	5 U	NA
Sulfide			NA	0.5 U	NA	0.5 U	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	5 U	NA	5.043	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	230	NA	456	NA
Carbon Dioxide			305	NA	485	NA	374
Carbon, Total Organic			NA	5 U	NA	5.043	NA
Chloride	250		NA	74.1	NA	29.7	NA

J - Reported value estimated in quantity

NA -Not analyzed

R- Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-22S	MA-MW-22S	MA-MW-18S	MA-MW-18S	MA-MW-18M
Sample ID	GWQC	MCL	CMA024	CMA024	CMA025	CMA025	CMA026
Sample Date			09/17/2002	09/17/2002	09/18/2002	09/18/2002	09/18/2002
Sample Interval			10 - 21 ft	10 - 21 ft	7.8 - 17.8 ft	7.8 - 17.8 ft	31.77 - 41.77 ft
CLP Sample ID			F14639-3	I2344-3	F14664-2	I2344-8	F14664-3
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	276 (A)	NA	390 (A)	NA
Iron, Ferrous			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			NA	0.1 UJ	NA	4.3 J	NA
Nitrogen, Kjeldahl			NA	0.4566 UJ	NA	4.864 J	NA
Nitrogen, Nitrate as N	10		NA	3.24	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			NA	NA	13.4	NA	NA
Oxygen Demand, Chemical			NA	NA	21.6	NA	NA
Phosphorus-32			NA	0.1 UJ	NA	0.598 UJ	NA
Solids, Total Dissolved (Residue, Filter			NA	6.9	NA	48	NA
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	66.9	NA	5 U	NA
Sulfide			NA	0.5 U	NA	0.5 U	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	1.5 U	NA	150 U	NA
Ethane			NA	1.5 U	NA	150 U	NA
Ethene			NA	1.5 U	NA	150 U	NA
Ethene			NA	1.5 U	NA	150 U	NA
Methane			NA	1.5 U	NA	1200	NA

J - Reported value estimated in quantity
NA - Not analyzed
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U - Analyte not detected above reporting limit

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Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-18M	MA-MW-18D	MA-MW-18D	MA-MW-19S	MA-MW-19S
Sample ID	GWQC	MCL	CMA026	CMA027	CMA027	CMA028	CMA028
Sample Date			09/18/2002	09/18/2002	09/18/2002	09/19/2002	09/19/2002
Sample Interval			31.77 - 41.77 ft	140 - 152 ft	140 - 152 ft	5.05 - 15.05 ft	5.05 - 15.05 ft
CLP Sample ID			I2344-9	F14664-1	I2344-7	F14692-6	I2344-17
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			308	NA	50	NA	460
Carbon Dioxide			NA	58.9	NA	460	NA
Carbon, Total Organic			5 U	NA	5 U	NA	5.001
Chloride	250		52	NA	18.3	NA	91.7
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		304 (A)	NA	60	NA	400 (A)
Iron, Ferrous			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			1.89 J	NA	1.58 J	NA	11.5 J
Nitrogen, Kjeldahl			2.188 J	NA	1.756 J	NA	12.92 J
Nitrogen, Nitrate as N	10		0.05 U	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	NA	NA	NA	NA
Oxygen Demand, Chemical			NA	NA	NA	NA	NA
Phosphorus-32			0.244 UJ	NA	0.208 UJ	NA	0.767 UJ
Solids, Total Dissolved (Residue, Filter			88	NA	120	NA	21.5
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		57.7	NA	22.7	NA	5 U
Sulfide			0.5 U	NA	0.5 U	NA	0.5 U
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			5 U	NA	5 U	NA	5.001
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			308	NA	50	NA	460
Carbon Dioxide			NA	58.9	NA	460	NA
Carbon, Total Organic			5 U	NA	5 U	NA	5.001
Chloride	250		52	NA	18.3	NA	91.7

J - Reported value estimated in quantity
 NA -Not analyzed
 R- Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-18M	MA-MW-18D	MA-MW-18D	MA-MW-19S	MA-MW-19S
Sample ID	GWQC	MCL	CMA026	CMA027	CMA027	CMA028	CMA028
Sample Date			09/18/2002	09/18/2002	09/18/2002	09/19/2002	09/19/2002
Sample Interval			31.77 - 41.77 ft	140 - 152 ft	140 - 152 ft	5.05 - 15.05 ft	5.05 - 15.05 ft
CLP Sample ID			I2344-9	F14664-1	I2344-7	F14692-6	I2344-17
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		304 (A)	NA	60	NA	400 (A)
Iron, Ferrous			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			1.89 J	NA	1.58 J	NA	11.5 J
Nitrogen, Kjeldahl			2.188 J	NA	1.756 J	NA	12.92 J
Nitrogen, Nitrate as N	10		0.05 U	NA	0.05 U	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	NA	NA	NA	NA
Oxygen Demand, Chemical			NA	NA	NA	NA	NA
Phosphorus-32			0.244 UJ	NA	0.208 UJ	NA	0.767 UJ
Solids, Total Dissolved (Residue, Filter			88	NA	120	NA	21.5
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		57.7	NA	22.7	NA	5 U
Sulfide			0.5 U	NA	0.5 U	NA	0.5 U
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (UG/L)							
Ethane			15 U	NA	1.5 U	NA	8
Ethane			15 U	NA	1.5 U	NA	8
Ethene			15 U	NA	1.5 U	NA	1.5 U
Ethene			15 U	NA	1.5 U	NA	1.5 U
Methane			120	NA	1.5 U	NA	670

J - Reported value estimated in quantity
 NA -Not analyzed
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 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-19M	MA-MW-19M	MA-MW-19R	MA-MW-19R	MA-MW-20R
Sample ID	GWQC	MCL	CMA029	CMA029	CMA030	CMA030	CMA031
Sample Date			09/19/2002	09/19/2002	09/19/2002	09/19/2002	09/20/2002
Sample Interval			42 - 52 ft	42 - 52 ft	103 - 113 ft	103 - 113 ft	113 - 123 ft
CLP Sample ID			F14692-3	I2344-14	F14692-4	I2344-15	F14715-1
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			NA	200	NA	20	NA
Carbon Dioxide			198	NA	209	NA	104
Carbon, Total Organic			NA	5 U	NA	5 U	NA
Chloride	250		NA	60.7	NA	4630 (A)	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		NA	194	NA	734 (A)	NA
Iron, Ferrous			0.11	NA	76.9	NA	37.9
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			NA	0.497 J	NA	7.76 J	NA
Nitrogen, Kjeldahl			NA	0.6442 UJ	NA	7.783 J	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			NA	NA	44.5 J	NA	NA
Oxygen Demand, Chemical			NA	NA	69.5	NA	22.2
Phosphorus-32			NA	0.137 UJ	NA	0.119 UJ	NA
Solids, Total Dissolved (Residue, Filter			NA	136	NA	156	NA
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	40.9	NA	254 (A)	NA
Sulfide			NA	0.5 U	NA	0.5 UJ	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	5 U	NA	5 U	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			NA	200	NA	20	NA
Carbon Dioxide			198	NA	209	NA	104
Carbon, Total Organic			NA	5 U	NA	5 U	NA
Chloride	250		NA	60.7	NA	4630 (A)	NA

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-19M	MA-MW-19M	MA-MW-19R	MA-MW-19R	MA-MW-20R
Sample ID	GWQC	MCL	CMA029	CMA029	CMA030	CMA030	CMA031
Sample Date			09/19/2002	09/19/2002	09/19/2002	09/19/2002	09/20/2002
Sample Interval			42 - 52 ft	42 - 52 ft	103 - 113 ft	103 - 113 ft	113 - 123 ft
CLP Sample ID			F14692-3	I2344-14	F14692-4	I2344-15	F14715-1
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	194	NA	734 (A)	NA
Iron, Ferrous			0.11	NA	76.9	NA	37.9
Nitrogen, Ammonia as N			NA	0.497 J	NA	7.76 J	NA
Nitrogen, Kjeldahl			NA	0.6442 UJ	NA	7.783 J	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.05 U	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			NA	NA	44.5 J	NA	NA
Oxygen Demand, Chemical			NA	NA	69.5	NA	22.2
Phosphorus-32			NA	0.137 UJ	NA	0.119 UJ	NA
Solids, Total Dissolved (Residue, Filter			NA	136	NA	156	NA
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	40.9	NA	254 (A)	NA
Sulfide			NA	0.5 U	NA	0.5 UJ	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	1.5 U	NA	2	NA
Ethane			NA	1.5 U	NA	2	NA
Ethene			NA	1.5 U	NA	1.5 U	NA
Ethene			NA	1.5 U	NA	1.5 U	NA
Methane			NA	54	NA	330	NA

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NA - Not analyzed
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Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
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Station ID	(A)	(B)	MA-MW-20R	MA-MW-20S	MA-MW-20S	MA-MW-20M	MA-MW-20M
Sample ID	GWQC	MCL	CMA031	CMA032	CMA032	CMA033	CMA033
Sample Date			09/20/2002	09/20/2002	09/20/2002	09/20/2002	09/20/2002
Sample Interval			113 - 123 ft	7.9 - 17.9 ft	7.9 - 17.9 ft	42 - 52 ft	42 - 52 ft
CLP Sample ID			I2344-18	F14715-3	I2344-20	F14715-4	K2344-1
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO3			20	NA	280	NA	370
Carbon Dioxide			NA	304	NA	207	NA
Carbon, Total Organic			5 U	NA	5 U	NA	6.965
Chloride	250		1300 (A)	NA	79	NA	89.5
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO3)	250		306 (A)	NA	354 (A)	NA	340 (A)
Iron, Ferrous			NA	NA	NA	3.7	NA
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			5.62	NA	0.1 U	NA	6.94 J
Nitrogen, Kjeldahl			6.12	NA	1.23	NA	7.973 J
Nitrogen, Nitrate as N	10		0.775	NA	6.79	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	NA	NA	NA	NA
Oxygen Demand, Chemical			NA	NA	NA	NA	NA
Phosphorus-32			0.1 U	NA	1.33	NA	0.272 UJ
Solids, Total Dissolved (Residue, Filter			79	NA	134	NA	208
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		51.8	NA	57.3	NA	54.3
Sulfide			1.08 U	NA	0.5 U	NA	0.5 U
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			5 U	NA	5 U	NA	6.965
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO3			20	NA	280	NA	370
Carbon Dioxide			NA	304	NA	207	NA
Carbon, Total Organic			5 U	NA	5 U	NA	6.965
Chloride	250		1300 (A)	NA	79	NA	89.5

J - Reported value estimated in quantity

NA -Not analyzed

R- Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

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GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-20R	MA-MW-20S	MA-MW-20S	MA-MW-20M	MA-MW-20M
Sample ID	GWQC	MCL	CMA031	CMA032	CMA032	CMA033	CMA033
Sample Date			09/20/2002	09/20/2002	09/20/2002	09/20/2002	09/20/2002
Sample Interval			113 - 123 ft	7.9 - 17.9 ft	7.9 - 17.9 ft	42 - 52 ft	42 - 52 ft
CLP Sample ID			I2344-18	F14715-3	I2344-20	F14715-4	K2344-1
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		306 (A)	NA	354 (A)	NA	340 (A)
Iron, Ferrous			NA	NA	NA	3.7	NA
Nitrogen, Ammonia as N			5.62	NA	0.1 U	NA	6.94 J
Nitrogen, Kjeldahl			6.12	NA	1.23	NA	7.973 J
Nitrogen, Nitrate as N	10		0.775	NA	6.79	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	NA	NA	NA	NA
Oxygen Demand, Chemical			NA	NA	NA	NA	NA
Phosphorus-32			0.1 U	NA	1.33	NA	0.272 UJ
Solids, Total Dissolved (Residue, Filter			79	NA	134	NA	208
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		51.8	NA	57.3	NA	54.3
Sulfide			1.08 U	NA	0.5 U	NA	0.5 U
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			1.5 U	NA	1.5 U	NA	0.7 J
Ethane			1.5 U	NA	1.5 U	NA	0.7 J
Ethene			1.5 U	NA	1.5 U	NA	1.5 U
Ethene			1.5 U	NA	1.5 U	NA	1.5 U
Methane			28	NA	1.5 U	NA	10

J - Reported value estimated in quantity
NA - Not analyzed
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Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
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Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
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Station ID	(A)	(B)	MA-MW-20D	MA-MW-20D	CW-07	CW-07	MA-MW-04S
Sample ID	GWQC	MCL	CMA034	CMA034	CMA035	CMA035	CMA036
Sample Date			09/20/2002	09/20/2002	09/24/2002	09/24/2002	09/17/2002
Sample Interval			123 - 133 ft	123 - 133 ft	N/A	N/A	4 - 14 ft
CLP Sample ID			F14715-2	I2344-19	F14738-6	K2344-13	F14639-2
Chemical Name							
General Chemistry (MG/L)							
Alkalinity, Total as CaCO ₃			NA	46	NA	74	NA
Carbon Dioxide			120	NA	81	NA	309
Carbon, Total Organic			NA	5 U	NA	5 U	NA
Chloride	250		NA	1960 (A)	NA	47.7	NA
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Hardness (As CaCO ₃)	250		NA	400 (A)	NA	156	NA
Iron, Ferrous			174	NA	0.1 U	NA	0.45 J
Methane			NA	NA	NA	NA	NA
Nitrogen, Ammonia as N			NA	6.32	NA	3.98 J	NA
Nitrogen, Kjeldahl			NA	7.042	NA	4.01 J	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.1	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			NA	NA	3 U	NA	33.3 J
Oxygen Demand, Chemical			36.1	NA	20 U	NA	45.9
Phosphorus-32			NA	0.139 U	NA	0.138 UJ	NA
Solids, Total Dissolved (Residue, Filter)			NA	32.7	NA	17	NA
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	49	NA	54.4	NA
Sulfide			NA	0.96 U	NA	0.5 U	NA
General Chemistry - mg/kg (MG/L)							
Carbon, Total Organic			NA	5 U	NA	5 U	NA
General Chemistry - mg/l (MG/L)							
Alkalinity, Total as CaCO ₃			NA	46	NA	74	NA
Carbon Dioxide			120	NA	81	NA	309
Carbon, Total Organic			NA	5 U	NA	5 U	NA
Chloride	250		NA	1960 (A)	NA	47.7	NA

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004

GWQC - Groundwater Quality Criteria

MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
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Station ID	(A)	(B)	MA-MW-20D	MA-MW-20D	CW-07	CW-07	MA-MW-04S
Sample ID	GWQC	MCL	CMA034	CMA034	CMA035	CMA035	CMA036
Sample Date			09/20/2002	09/20/2002	09/24/2002	09/24/2002	09/17/2002
Sample Interval			123 - 133 ft	123 - 133 ft	N/A	N/A	4 - 14 ft
CLP Sample ID			F14715-2	I2344-19	F14738-6	K2344-13	F14639-2
Chemical Name							
General Chemistry - mg/l (MG/L)							
Hardness (As CaCO3)	250		NA	400 (A)	NA	156	NA
Iron, Ferrous			174	NA	0.1 U	NA	0.45 J
Nitrogen, Ammonia as N			NA	6.32	NA	3.98 J	NA
Nitrogen, Kjeldahl			NA	7.042	NA	4.01 J	NA
Nitrogen, Nitrate as N	10		NA	0.05 U	NA	0.1	NA
Nitrogen, Nitrite	1		NA	0.05 U	NA	0.05 U	NA
Oxygen Demand, Biologic Five Day			NA	NA	3 U	NA	33.3 J
Oxygen Demand, Chemical			36.1	NA	20 U	NA	45.9
Phosphorus-32			NA	0.139 U	NA	0.138 UJ	NA
Solids, Total Dissolved (Residue, Filter			NA	32.7	NA	17	NA
Solids, Total Suspended			NA	NA	NA	NA	NA
Sulfate	250		NA	49	NA	54.4	NA
Sulfide			NA	0.96 U	NA	0.5 U	NA
General Chemistry - ug/l (ug/L)							
Ethane			NA	NA	NA	NA	NA
Ethene			NA	NA	NA	NA	NA
Methane			NA	NA	NA	NA	NA
Volatile Organic Compounds (mg/l)							
Ethane			NA	3 U	NA	1.5 U	NA
Ethane			NA	3 U	NA	1.5 U	NA
Ethene			NA	3 U	NA	1.5 U	NA
Ethene			NA	3 U	NA	1.5 U	NA
Methane			NA	53	NA	9	NA

J - Reported value estimated in quantity
 NA - Not analyzed
 R- Rejected result
 U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
 Exceedances highlighted

05/26/2004
 GWQC - Groundwater Quality Criteria
 MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-04S	MA-MW-21S	MA-MW-21S
Sample ID	GWQC	MCL	CMA036	CMA037	CMA037
Sample Date			09/17/2002	09/17/2002	09/17/2002
Sample Interval			4 - 14 ft	10 - 21 ft	10 - 21 ft
CLP Sample ID			I2344-2	F14639-5	I2344-5
Chemical Name					
General Chemistry (MG/L)					
Alkalinity, Total as CaCO3			260	NA	450
Carbon Dioxide			NA	436 J	NA
Carbon, Total Organic			16.26	NA	8.123
Chloride	250		3.8	NA	72.8
Ethane			NA	NA	NA
Ethene			NA	NA	NA
Hardness (As CaCO3)	250		256 (A)	NA	386 (A)
Iron, Ferrous			NA	NA	NA
Methane			NA	NA	NA
Nitrogen, Ammonia as N			2.18 J	NA	1.89 J
Nitrogen, Kjeldahl			3.392 J	NA	2.517 J
Nitrogen, Nitrate as N	10		0.17 J	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	2 J	NA
Oxygen Demand, Chemical			NA	27	NA
Phosphorus-32			0.438 UJ	NA	1.02 J
Solids, Total Dissolved (Residue, Filter			4.6	NA	62.3 J
Solids, Total Suspended			NA	NA	NA
Sulfate	250		6.76 J	NA	23.1
Sulfide			0.76 U	NA	0.56 U
General Chemistry - mg/kg (MG/L)					
Carbon, Total Organic			16.26	NA	8.123
General Chemistry - mg/l (MG/L)					
Alkalinity, Total as CaCO3			260	NA	450
Carbon Dioxide			NA	436 J	NA
Carbon, Total Organic			16.26	NA	8.123
Chloride	250		3.8	NA	72.8

J - Reported value estimated in quantity

NA - Not analyzed

R - Rejected result

U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria

Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Table G.15
Groundwater - Natural Attenuation Parameter Results
Martin Aaron Superfund Site
Camden, NJ
Remedial Investigation Report - May 2004

Station ID	(A)	(B)	MA-MW-04S	MA-MW-21S	MA-MW-21S
Sample ID	GWQC	MCL	CMA036	CMA037	CMA037
Sample Date			09/17/2002	09/17/2002	09/17/2002
Sample Interval			4 - 14 ft	10 - 21 ft	10 - 21 ft
CLP Sample ID			I2344-2	F14639-5	I2344-5
Chemical Name					
General Chemistry - mg/l (MG/L)					
Hardness (As CaCO3)	250		256 (A)	NA	386 (A)
Iron, Ferrous			NA	NA	NA
Nitrogen, Ammonia as N			2.18 J	NA	1.89 J
Nitrogen, Kjeldahl			3.392 J	NA	2.517 J
Nitrogen, Nitrate as N	10		0.17 J	NA	0.05 U
Nitrogen, Nitrite	1		0.05 U	NA	0.05 U
Oxygen Demand, Biologic Five Day			NA	2 J	NA
Oxygen Demand, Chemical			NA	27	NA
Phosphorus-32			0.438 UJ	NA	1.02 J
Solids, Total Dissolved (Residue, Filter			4.6	NA	62.3 J
Solids, Total Suspended			NA	NA	NA
Sulfate	250		6.76 J	NA	23.1
Sulfide			0.76 U	NA	0.56 U
General Chemistry - ug/l (ug/L)					
Ethane			NA	NA	NA
Ethene			NA	NA	NA
Methane			NA	NA	NA
Volatile Organic Compounds (mg/l)					
Ethane			7.5 U	NA	1.5 U
Ethane			7.5 U	NA	1.5 U
Ethene			7.5 U	NA	1.5 U
Ethene			7.5 U	NA	1.5 U
Methane			59 J	NA	24

J - Reported value estimated in quantity
NA - Not analyzed
R- Rejected result
U - Analyte not detected above reporting limit

(A, B) - Exceeds criteria
Exceedances highlighted

05/26/2004
GWQC - Groundwater Quality Criteria
MCL - Maximum Contaminant Level

Appendix H

Quality Assurance Project Plan

Quality Assurance Project Plan (QAPP)

Remedial Investigation at the Martin Aaron, Inc. Superfund Site - Camden, New Jersey

RESPONSE ACTION CONTRACT NO. 68-W6-0036
EPA WORK ASSIGNMENT NO. 953-RICO-02MN
CH2M HILL PROJECT NO. 164453

Prepared for
U.S. Environmental Protection Agency

August 31, 2001



CH2MHILL

1700 Market Street, Suite 1600
Philadelphia, PA 19103

QUALITY ASSURANCE PROJECT PLAN (QAPP)
Remedial Investigation/Feasibility Study
Martin Aaron Superfund Site
Camden, New Jersey

WA No. 053-RICO-02MN/Contract No. 68-W6-0036

Prepared by: CH2M HILL

Date: August 31, 2001

Approved by:

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EPA, Region 6, Project Officer
Tom Reilly

EPA, Region 6, Contracting Officer
Deborah Ponder

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Alpheus Sloan, III

CH2M HILL, Project Manager
David Nisula

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Attachment 2 New Jersey Specific Groundwater Quality Criteria and Soil Cleanup Criteria

Distribution List

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List of Acronyms

AA	Administrative Assistant
AOC	Administrative Order on Consent
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CFAM	Contract Financial/Administrative Manager
CLP	(EPA) Contract Laboratory Program
COC	Chain of Custody
DCA	Dichloroethane
DCE	Dichloroethene
DMP	Data Management Plan
DQOs	Data Quality Objectives
EB	Equipment Blank
EDD	Electronic Data Deliverable
EPA	Environmental Protection Agency
ESD	(EPAs) Environmental Services Division
FS	Feasibility Study
FSP	Field Sampling Plan
FTL	Field Team Leader
GC	Gas Chromatography
GIS	Geospatial Information System
ID	Identification Number
LC	Liquid Chromatography
MDL	Method Detection Limit
MS	Mass Spectroscopy
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NJDEP	New Jersey Department of Environmental Protection
NPL	National Priorities List
PCE	Project Controls Engineer
PCE	Tetrachloroethylene
PGM	Program Manager

PM	Project Manager
PRP	Potentially Responsible Party
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
QAO	Quality Assurance Officer
QAP	Quality Assurance Plan
QAPP	Quality Assurance Project Plan
QC	Quality Control
RAS	Routine Analytical Services
RFP	Request for Proposal
RIDMS	Remedial Investigation Data Management System
RIL	Remedial Investigation Lead
RI/FS	Remedial Investigation/Feasibility Study
RSCC	(EPAs) Regional Sample Control Coordinator
RTL	Review Team Leader
RL	Reporting Limit
ROD	Record of Decision
SAS	Specialized Analytical Services
SDG	Sample Delivery Group
SMO	(EPAs) Sample Management Office
SOP	Standard Operating Procedure
SOW	Statement of Work
SQL	Structured Query Language
SVOC	Semivolatile Organic Compounds
SW	Solid Waste
TCE	Trichloroethylene
TOC	Total Organic Carbon
VC	Vinyl Chloride
VOC	Volatile Organic Compounds
WAM	Work Assignment Manager

SECTION 1

Project Management

1.1 Introduction

CH2M HILL is performing a remedial investigation/feasibility study (RI/FS) for the Martin Aaron Superfund site, located in Camden, New Jersey, in accordance with Work Assignment No. 953-RICO-02MN Statement of Work (SOW). This Quality Assurance Project Plan (QAPP) is one of several support plans prepared in conjunction with the following documents for the Martin Aaron RI/FS submitted under separate cover:

- Final RI/FS Work Plan (approved by EPA on April 29, 2001)
- Field Sampling Plan (FSP, August 2001)
- Site Health and Safety Plan (HASP, August 2001)

The site is located at 1542 South Broadway Street in Camden, New Jersey (see Figure 1-1). The purpose of this QAPP is to present the quality assurance/quality control (QA/QC) requirements for performing the RI/FS.

This section provides an overall approach to managing the project, including:

- Project organization, roles, and responsibilities
- Project definition and background
- Project description and schedule
- Data quality objectives (DQOs)
- Special training requirements
- Documentation and records management

1.2 Project Organization

CH2M HILL is contracted to perform work for EPA through a Response Action contract with EPA Region 6. Since the Martin Aaron site is located in EPA Region 2, that region will provide technical oversight of CH2M HILL, who is responsible for all phases of the investigation activities at the Martin Aaron site. CH2M HILL will also perform the FS for the site and provide project management. The various QA and management responsibilities of key project personnel are defined below and are shown in Figure 1-2.

1.2.1 EPA Region 2 Work Assignment Manager

The work assignment manager (WAM) is Richard Ho. Mr. Ho's responsibilities include:

- overall responsibility for all phases of the RI/FS
- review and approval of this QAPP and other support plans

1.2.2 EPA Region 6 Project and Contracting Officers

Technical direction and contract administration are provided by Mr. Tom Reilly, Project Officer (PO), and Ms. Cora Stanley, Contracting Officer (CO), respectively, in EPA's Region 6 Office.

1.2.3 EPA Region 2 Contract Laboratory Program Liaison

The Contract Laboratory Program (CLP) Liaison will be assigned once the CLP laboratories are selected by EPA. The responsibilities of the CLP Liaison include managing the CLP laboratories so that they will be able to receive and analyze the field samples collected as part of the RI.

1.2.4 CH2M HILL Program Manager

The CH2M HILL Program Manager is Alpheus Sloan, III. He has overall responsibility for meeting EPA objectives and CH2M HILL quality standards. In addition, the Program Manager is responsible for technical QC and project oversight.

1.2.5 CH2M HILL QA Manager/Senior Reviewer

The QA manager/senior reviewer is Mark Lucas. The QA manager will remain independent of direct job involvement and day-to-day operations and has direct access to management staff to resolve QA disputes, as necessary. Specific functions and duties include the following:

- Directing the QA review of the various phases of the project, as necessary
- Directing the review of QA plans and procedures
- Providing QA technical assistance to project staff, as necessary

1.2.6 CH2M HILL Project Manager

The CH2M HILL project manager (PM) is David Nisula. The PM is responsible for implementing the project and is authorized to commit resources to meet project objectives and requirements. The PM's primary function is to achieve technical, financial, and scheduling objectives. The PM will report directly to the EPA Region 2 WAM and will be the major point of contact for matters concerning the project. Specific functions and duties include the following:

- Define project objectives and develop a detailed work plan and schedule
- Establish project policy and procedures to address the specific needs of the project as a whole, as well as the objectives of each task
- Acquire and apply technical and corporate resources to meet budget and schedule constraints
- Orient field leaders and support staff with regard to the project's special considerations
- Monitor and direct other team members

- Develop and meet ongoing project or task staffing requirements, including mechanisms to review and evaluate each task product
- Review the work performed on each task to ensure quality, responsiveness, and timeliness
- Review and analyze overall task performance with regard to planned schedule and budget
- Review external reports (deliverables) before submission to EPA Regions 2 and 6
- Represent the project team at meetings and public hearings

1.2.7 CH2M HILL Remedial Investigation Lead

Kevin Murdock is CH2M HILL's Remedial Investigation Lead (RIL). The RIL is responsible for implementing the investigation as described in the site-specific planning documents. Mr. Murdock will serve as the alternate contact for the site and will lead the technical team in the preparation of the RI report.

1.2.8 CH2M HILL Review Team Leader

The Review Team Leader is Murray Rosenberg. Mr. Rosenberg's role as the review team leader is to support the PM in site management activities and to coordinate CH2M HILL internal reviews. The review team leader will also be involved in ongoing planning activities.

1.2.9 CH2M HILL Analytical, Sampling, and Data Quality Evaluation Lead

The CH2M HILL analytical, sampling, and data quality evaluation lead (project chemist and sample manager) is Paul Arps. He (or his designee) will be responsible for sample management and tracking during and after field activities. Specific responsibilities include the following:

- Schedule the sampling events with EPA's Regional Sample Control Coordinator (RSCC)
- Prepare sampling trip reports and submit them to EPA
- Monitor the laboratory/data validation process
- Relay data schedule or quality issues to the RSCC
- Maintain internal tools to track the receipt and content of data packages
- Prepare adequate storage facilities for hardcopy and electronic data files
- Coordinate non-CLP subcontracted laboratories for geotechnical, wipe/chip, and natural attenuation parameter sample
- Evaluate the usability (e.g., format of submittal, completeness of the dataset, and comments on the data qualifier) of electronic and hardcopy results from one out of every 10 samples
- Provide direction to the CH2M HILL Environmental Information Specialist (EIS) in the data management process

1.2.10 CH2M HILL Field Team Leader and Field Data Specialist

CH2M HILL's Field Team Leader (FTL) is Wojciech Winkler. The FTL is responsible for coordinating field efforts, making available and maintaining sampling equipment and materials; and providing shipping and packing materials. The FTL supervises the completion of chain-of-custody (COC) records, supervises the proper handling and shipping of samples, and is responsible for accurate completion of the field logbook. As the lead field representative, the FTL is responsible for consistently implementing the required QA/QC measures and performing field activities in accordance with approved policies and field procedures.

The CH2M HILL Field Data Specialist (FDS) will provide part time field support specifically to prepare sample labels and containers, complete chain-of-custody documentation, process samples for shipment, and transport the sample containers to an overnight shipping facility. The FDS is cross-trained to support the technical field activities and members of the field team as needed.

1.2.11 CH2M HILL Project Controls Engineer

Sam Brock is CH2M HILL's Project Controls Engineer (PCE). Mr. Brock's specific responsibilities include the following:

- Establishing and maintaining the project schedule;
- Establishing and maintaining the project financials, and;
- Preparing schedule and financial documents for work plans, work plan revision requests and monthly progress reports.

Mr. Brock will work with CH2M HILL's Contract Financial/Administrative Manager (CFAM), Kristina Staley, to provide contract administration and financial project controls support.

1.2.12 CH2M HILL Subcontracts Manager

Beverly Brooks is CH2M HILL's Subcontract's Manager. Ms. Brooks will work with CH2M HILL's CFAM, Kristina Staley, to provide contract administration controls support. Ms. Brooks will be responsible for the contract documents created in support of RI activities. Specific responsibilities include the following:

- Procuring the subcontractor;
- Resolving and contract dispute;
- Issuing change orders, as necessary, and;
- Closeout of the subcontracts.

1.2.13 CH2M HILL Data Management and Presentation Lead

Lalenia Ebert will serve as the Data Management and Presentation Lead. Ms. Ebert will coordinate the compilation and evaluation of historic data generated at the site and the incorporation and evaluation of new RI data. She will coordinate with EPA Region 2 in creating and implementing the Remedial Investigation Data Management System (RIDMS),

prior to loading the initial configuration data, and will support the ongoing management of the RIDMS toolkit. Ms. Ebert will also lead establishment of a standard process for requesting data and figures to support the preliminary evaluation of the data set.

1.2.14 CH2M HILL Technical Resources

CH2M HILL will draw on its corporate resources to identify appropriate technical resources to gather and analyze data and prepare various task reports and support materials. The PM, along with the other team members previously identified will coordinate the technical resources as needed to support each task.

1.2.15 Analytical and Data Validation Support

This task includes work efforts involved in scheduling, coordinating, tracking, and overseeing sample analyses and validating analytical data produced. The soil and groundwater samples collected during the RI will be analyzed for Target Compound List (TCL) and Target Analyte List (TAL) constituents through the EPA regional Contract Laboratory Program (CLP). CH2M HILL will directly procure required special analytical services, including geotechnical and natural attenuation parameters, from qualified, independent, non-CLP laboratories.

EPA will assign the CLP laboratories prior to the field sampling events (these laboratories are yet to be identified). CH2M HILL will select the non-CLP laboratories.

1.3 Problem Definition / Background

Information in this section was obtained primarily from the report entitled, Draft Remedial Investigation Report (RI Report, dated June 2000), prepared by L. Robert Kimball and Associates, Inc. for the New Jersey Department of Environmental Protection (NJDEP).

The 2.4-acre Martin Aaron site is located at 1542 South Broadway Street in the City of Camden, Camden County, New Jersey (Figure 1-1). The property is identified as Lot 1 of Block 460 in the Camden County Tax Assessor records for the City of Camden (see Figure 1-2A in the FSP). The property is situated on relatively level land in an area of mixed industrial and residential zoned properties. The site is roughly rectangular with about 309 feet adjoining the east line of the South Broadway Street right-of-way and about 334 feet adjoining the west line of the Sixth Street right-of-way (see Figure 1-2A in the FSP). A junkyard (Lots 10 and 4) and Everett Street are located north of the Site. A food processing company (Comarco) is located south of the site (Lots 26 and 3). During summer months, the site is mostly covered by dense vegetation.

Various companies, including Martin Aaron, Inc., used the site for drum recycling for approximately 30 years. Historically, Kifferty Morocco Manufacturing Co. operated a tannery at the site from 1887 until 1908. Castle Kid Company purchased the property in 1908 and manufactured glazed leathers until the City of Camden seized the property for tax delinquency in 1940. Benjamin Schmerling bought the property in 1940 and leased portions to H. Preston Lowden Co. for wool and hair blending and to American Chain and Cable Company-PA Lawnmower Division for manufacturing. Martin Aaron, Inc. purchased the property from Benjamin Schmerling in 1969, and operated a drum reconditioning facility

until 1985 under the name Drum Service of Camden. In 1985, Martin Aaron, Inc. sold the business to a corporation jointly owned by Westfall Ace Drum Company (Wadco) and Rhodes Drum Co, two major clients of the former Drum Service of Camden. Wadco occupied the majority of the facility and ceased operations in March 1995. Rhodes Drum Company operated at the building near the southeast corner of the site until they ceased operations in 1998. It is reported that a trucking company recently used the property for the storage and transfer of trailers and parking of automobiles. Martin Aaron, Inc. still owns the property.

Access to the site is restricted by a chain-linked fence with a locked gate. The City of Camden demolished the main structure, formerly located at the southwest portion of the Site and occupied by the Westfall Ace Drum Company (Wadco) (except for the concrete floor) in November 1998. Three underground storage tanks (USTs) were formerly located in the processing area just north of the former structure, and one UST was located east of the former structure. These USTs and associated contaminated soil were removed by the NJDEP during the spring and summer of 1999. In addition, five above ground storage tanks (ASTs) associated with the former operations were removed by the NJDEP prior to the start of RI activities in 1997. The remaining concrete floor of the former building contains a number of floor drains that led to three former settling basins. According to former site operators, all three basins reportedly received drum rinseate waters from site operations, and discharged to the Camden County Municipal Utility Authority (CCMUA) sanitary sewer system (although the actual discharge for basins 2 and 3 remains unknown). According to the RI Report, Basin 1 was removed by the NJDEP during UST removal activities in 1999.

The only remaining surficial structure, formerly occupied by Rhodes Drum Company, is located in the southeast portion of the lot (see Figure 1-2A in the FSP). According to the RI Report, one processing vessel and a single skimming basin (basin 4) were located near the east end of the building, and were removed by EPA in the winter of 1999. The basin received drum rinseate effluent from Rhodes Drum Company operations and discharged to the CCMUA sanitary sewer system, following pre-treatment activities. The remaining portions of the Site were historically used for drum storage, and consist of paved and unpaved surfaces; these areas are predominately open. Most or all of the stacked drums were removed by NJDEP.

An additional property of concern is located west of the Martin Aaron property, at 1535 South Broadway Street (Lot 15, Block 458), and is owned by the South Jersey Port Corporation (SJPC). The SJPC property was formerly leased to Wadco, which used it for office space and drum receiving/sorting. Three commercial buildings occupy the lot, with the remaining acreage consisting of paved and unpaved lots (see Figure 1-2B in the FSP).

Numerous areas of concern have been identified at the site. The processing rooms, where drums were drained, pressure-washed with caustic solutions, and rinsed, are major areas of concern. The residues from drum contents, rinseate runoff, and steam blowdown were collected in drainage tanks and floor drains. There was a baghouse for dust collection from drum sandblasting and a paint booth where oil-based paint was applied. Various ASTs and USTs were also associated with the site processes. The outdoor paved and unpaved portions of the property were used for drum storage. Leaking roll-off containers and drums had been observed on the site. The NJDEP confirmed reports of disposal, observed buried drums of hazardous waste, and found contaminated soils at depths below the water table. Numerous

sampling events conducted by the NJDEP between 1986 and 1998 identified volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and inorganic constituents in site settling basins and drums, as well as soil and groundwater. The highest concentrations of these constituents were detected near the drum processing areas where the settling basins are located.

The NJDEP RI was conducted in three phases (May to September 1997, September to November 1998, and December 1999 to March 2000). The RI included primarily site reconnaissance, a geophysical investigation over the yard area of the Martin Aaron property, a soils investigation including soil borings (with prefix "SB") and test trenches/pits (with prefix "TP"), a hydrogeologic investigation including the installation and sampling of 14 monitoring wells on the Martin Aaron property and two wells on the SJPC property, and site mapping and surveying.

1.3.1 Soil Conditions

Seventeen (17) VOCs were detected in site surface and/or subsurface soils at concentrations exceeding the NJDEP soil cleanup criteria. The primary VOCs of concern include 1,2-dichloroethane, 1,2-dichloroethene (total), 1,2-dichloropropane, benzene, tetrachloroethene, toluene, trichloroethene, vinyl chloride and xylenes (total). Several chlorinated VOCs are present across the entire Martin Aaron property and extend beyond the property boundaries to the northeast, east, and possibly south. Aromatic VOCs detected at concentrations in excess of NJDEP soil cleanup criteria are generally located around the former USTs immediately north of the former Martin Aaron building, and in the area northeast of the Rhodes Drum building.

Twelve (12) SVOCs were detected in site surface and/or subsurface soil at concentrations above the NJ soil cleanup criteria. The SVOCs of concern generally include benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, bis(2-ethylhexyl)phthalate, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene and naphthalene. The majority of total SVOC results in excess of 150 mg/kg were identified on the Martin Aaron property extending beyond the property border to the northeast, and in the northern portions of the SJPC property.

Pesticide compounds of concern include aldrin, dieldrin and heptachlor found in site surface and subsurface soils. The highest pesticide concentrations were identified in soil borings located immediately north and east of the former Martin Aaron building and immediately north of the Rhodes Drum building with contamination in excess of 100 times the current NJDEP Residential Direct Contact Soil Cleanup Criteria (RDCSCC).

Total PCB concentrations in excess of the NJ soil cleanup criteria were detected at several sampling locations on the Martin Aaron property. Total PCB concentrations in samples from the SJPC property did not exceed the NJDEP soil cleanup criteria.

Metals of concern include arsenic, beryllium, cadmium, chromium, copper, lead, thallium and zinc, which were found in site and off-site surface and subsurface soils at concentrations above the NJDEP soil cleanup criteria. The horizontal extent of metals contamination possibly emanating from the site has not been fully delineated.

1.3.2 Groundwater Conditions

The VOCs found in the shallow portion of the Potomac-Raritan-Magothy (PRM) aquifer system consist of both aromatic VOCs (benzene and xylenes) and chlorinated VOCs (tetrachloroethene, trichloroethene, and 1,2-dichloroethene). Aromatic VOCs were found at the highest levels in wells MW5S, MW7S, and MW2S while the highest level of chlorinated VOCs were detected in wells MW7S and MW5S. Only one VOC (tetrachloroethene) was found above the NJDEP groundwater quality standard (GQS) in groundwater samples from the intermediate wells.

The SVOCs found in samples from the shallow wells consisted mainly of naphthalene in MW1S and MW2S. Only one SVOC (bis[2-ethylhexyl]phthalate) was detected above the NJDEP GQS in one intermediate wells (MW11M).

Metals at levels above the NJDEP GQS were detected in all monitoring wells (shallow and intermediate) during each sampling round. In general, metals at concentrations above the NJDEP GQS were more prevalent and at higher concentrations in the shallow groundwater zone. The most common analytes detected above the NJDEP GQS included aluminum, arsenic, iron, lead and manganese. Each of these analytes were found to be relatively widespread in the site surface and subsurface soils.

Pesticide and PCB contamination in the shallow groundwater zone was limited to one occurrence of aldrin in MW6S, one occurrence of dieldrin in MW11S, and one occurrence of total PCBs in well MW6S. No pesticide/PCB compounds were detected above the NJDEP GQS in samples from the intermediate wells.

1.3.3 Radioactivity

Radioactivity was tested for but not detected in groundwater samples at the site. No site soils were tested for radioactivity (personal communication with Richard Robinson, EPA Remedial Project Manager [RPM] for the Welsbach Superfund Site, May 31, 2001).

1.4 Project Description and Schedule

The goal of the RI/FS is to develop the minimum amount of data necessary to support the selection of an approach for site remediation, and then to use these data to prepare a well-supported Record of Decision (ROD) within 18 months after approval of the Project Management and Work Plans. The estimated completion date for this work assignment is October 18, 2002. A detailed project schedule is provided as part of the RI/FS Work Plan (April 2001). The general objectives of the RI/FS for the Martin Aaron site are to:

- Define the nature and extent of contamination in surface and subsurface soil and groundwater to support the assessment of potential risk to human health and the environment and to determine whether remedial actions are necessary.
- Determine whether nonaqueous phase liquids (NAPLs) are present around the identified potential source area (e.g., former settling basins, processing rooms, aboveground and underground storage tanks, and outside drum storage areas) such that remedial action alternatives can be evaluated.

- Field verify with a radiation detector the presence or absence of radiation in surface and subsurface soils.
- Collect site-specific geologic and hydrogeologic information necessary for the evaluation of risk and remedial action alternatives.
- Perform a structural analysis to determine the integrity of the Rhodes building. In addition, if the structural evaluation of the building shows that safety of those performing the investigation is adequate, determine if contamination exists in the Rhodes building that may affect the future actions for the building.

These objectives will be accomplished by obtaining and analyzing surface and subsurface soil and groundwater samples from the Martin Aaron site, and obtaining and analyzing chip and wipe samples from the Rhodes building. Information on site geological conditions, including lithology and the physical properties of underlying soils, will be obtained for the evaluation of remedial alternatives. The hydrogeologic conditions affecting vertical and horizontal chemical migration at the site will be assessed through water level monitoring, collection of geochemical data, insitu hydraulic testing, and a tidal influence study. A structural analysis for the Rhodes building will also be conducted to evaluate future remedial alternatives. Specific objectives for each media are presented in the RI/FS Work (April 2001) and the FSP (August 2001).

1.5 Quality Objectives and Criteria for Measurement Data

Data quality objectives (DQOs) are qualitative and quantitative statements that specify the quality of data required to support decisions made during or after site-related activities. Project specific DQOs are developed with the seven-step process presented below.

Step 1: State the Problem

The Martin Aaron site has been used by various industries since 1887. Different areas of the site were used for leather tanning and manufacture, wool and hair blending, and drum reconditioning and recycling. Several investigations were conducted by the NJDEP between 1986 and 2000. The presence of VOCs and metals associated with the drum processing activities has been documented in soils to depths of up to 8 feet, and 1,2-dichloroethene has been detected in groundwater approximately 50 feet below ground surface in the lower portion of the PRM aquifer. A site visit by EPA Region 2 and CH2M HILL on September 20, 2000 was conducted to develop a conceptual understanding of the site and its environs and discuss the scope of the RI/FS. This information was used to help confirm data gaps identified during review of the existing site data and to focus the investigation. The basis and key assumptions used to develop the scope of the field investigation at the Martin Aaron site is contained in Task 3 (Field Investigation) of the RI/FS Work Plan and the FSP.

Step 2: Identify the Decision

The main objective of this RI/FS is to obtain data on the nature and extent of site-related contaminants and determine whether the site presents a risk to human health or the surrounding environment, and if it does, evaluate the best alternatives for remediating the risk. This will be accomplished by collecting the minimum amount of information necessary to support the risk assessment, the feasibility study, and ultimately the ROD.

Step 3: Identify the Inputs to the Decision

The most current information about the site consists of historical site information, information on industrial practices, and analytical data, and is contained in the *Draft Remedial Investigation Report for Martin Aaron Site* (L. Robert Kimball and Associates, June 2000). Based on the comparison of the available data with the EPA's generic soil screening levels (SSLs), the nature and extent of contamination in surface and subsurface soil have not been adequately defined. Data gaps were also identified when comparing the available groundwater data to the EPA's Drinking Water Standards (i.e., the Maximum Contaminant Levels [MCLs] and Health Advisories (Lifetime)). In addition, based on the disturbances to the site due to soil and structure removal actions undertaken by the NJDEP and EPA after generation of the draft RI, the existing soil data are assumed to not be representative of current conditions. Sampling will be conducted to supplement the historical site data, and to determine the extent of contamination based on comparison with EPA and NJDEP soil and groundwater quality standards. Remedial action alternatives will be evaluated using the resulting analytical data, additional geotechnical and hydrogeologic information, and the Rhodes building structural integrity assessment. Provided that the safety of those performing the investigation is adequate per the structural evaluation, chip and wipe samples will be collected from the Rhodes building to determine the extent of residual contamination (all collected during the RI). The geotechnical and hydrogeologic information will also be used to evaluate the contaminant fate and transport in groundwater beneath the site.

Step 4: Define the Boundaries of the Study

The Martin Aaron site, located at 1542 South Broadway Street, consists of approximately 2.4 acres located in a mixed industrial and residential area of Camden, New Jersey. The site is roughly rectangular with about 309 feet adjoining the east line of the South Broadway right-of-way and about 334 feet adjoining the west line of Sixth Street right-of-way (see Figure 1-1). North of the site is a junkyard (Lots 10 and 4) and Everett Street. The properties south of the site include a trucking company (Lots 26 and 3).

An additional property of concern is located west of the Martin Aaron property, at 1535 South Broadway (Lot 15, Block 458), and is owned by the South Jersey Port Corporation (SJPC). The SJPC property was formerly leased to Wadco, which used it for office space and drum receiving/sorting. Three commercial buildings occupy the lot, with the remaining acreage consisting of paved and unpaved lots.

The site is currently surrounded by paved roadway surfaces and storm sewers connected to the CCMUA combined storm/sewer system. The nearest surface water to the site is the Delaware River that is located about 0.75 miles to the west. Therefore, no surface water or sediment samples will be collected during the site investigation.

The site overlies the most productive source of groundwater in Camden, the PRM aquifer system. There is hydraulic interconnection vertically throughout the PRM aquifer system in the Camden area. Public water-supply wells tapping the PRM aquifer system within 4 miles of the site provide water to approximately 105,000 persons. The nearest of these wells is a Camden City well located approximately 1.75 miles to the east-northeast.

Analytical data collected from the proposed soil, groundwater and Rhodes building (chip and wipe) sample locations will help characterize current conditions relative to site-related contamination, and help assess the potential for site contaminants to migrate offsite and impact the City of Camden's water supply. The overall goal is to obtain the data necessary to determine the potential risk at the site from exposure to site contaminants, and to support the selection of a site remedial approach within 18 months after approval of the project management work plans.

Step 5: Develop a Decision Rule

The soil and groundwater samples will be collected to confirm previously obtained data and to further characterize and delineate the extent of contamination throughout the site. The Rhodes building chip and wipe samples will be collected to assess residual contaminant levels in the building materials and to evaluate future options for the building. These results will be used in both environment risk assessment and to evaluate remedial action alternatives. The nature and extent of soil contamination will initially be determined based on the lower of EPA's generic SSLs and NJDEP's Soil Cleanup Criteria. Similarly, the nature and extent of groundwater contamination will initially be determined based on the lower of EPA's Drinking Water Standards (MCLs) and NJDEP's Ground Water Quality Standards. The action levels have not yet been set for the FS.

Step 6: Specify Limits on Decision Errors

The environmental conditions at the site will be assessed through sample collection and analysis. The probability of sampling and measurement errors that exist at any site under investigation necessitates the development of sampling guidelines and the collection of quality control samples. The sampling locations and frequency are selected to minimize error in assessment of environmental conditions, while QC samples are collected to monitor the precision and accuracy of both the sampling team and the analytical methods. Field errors are also minimized by requiring each field team member to follow the same standard operating procedures (SOPs). The sampling techniques are discussed (or referenced) in detail in the FSP.

The acceptable limits on the probability of making a decision error are dependent on the consequences of the error. The data collected from the RI will be used to assess risk from exposure to site contaminants, and to propose and implement site remedial alternatives. Therefore, the acceptable limits for the error in making a decision are relatively low. The sampling events are focused on providing accurate and sufficient data for characterizing current site conditions; therefore the probability of error in data interpretation and decision making is low.

Step 7: Optimize the Design

The main goals of the RI are to delineate the extent of contamination in soil and groundwater, assess the Rhodes Drum building, and obtain sufficient data to assess the potential risk to human health and the environment, and develop remedial alternatives that eliminate, reduce or control such risk. A preliminary review of the soil data presented in the *Draft Remedial Investigation Report* indicates that the nature and extent of contamination in the surface and subsurface soils have not been defined. Although the "hot spot" areas (i.e., areas exceeding the NJDEP soil cleanup criteria) have been identified and characterized, the limits of contamination have not been adequately delineated based on EPA's generic SSLs.

Also, based on disturbance of the site due to the soil and structure removal actions undertaken by NJDEP and EPA subsequent to information presented in the *Draft Remedial Investigation Report*, the existing soil data is assumed to not be representative of these disturbed areas. The sampling procedures are specified in Task 3 (Field Investigation) of the Work Plan and the FSP. The investigation is designed to collect just enough data to support project objectives, avoiding any unnecessary sample collection.

1.6 Special Training Requirements / Certification

As described in Section 1.2 (Project Organization), CH2M HILL project team members have been selected with the necessary experience and technical skills to perform the required project tasks. The subcontractors procured to complete tasks such as drilling and laboratory analysis will meet the project specific requirements and the general requirements of the EPA and the State of New Jersey.

1.7 Documentation of Records

1.7.1 Field Sampling Documentation

The field team members will keep a daily record of significant events, observations, and measurements during sampling. The required contents of the field logbook are specified in the FSP. A field logbook will be initiated at the start of the first onsite activity and maintained to record onsite activities during all sampling events. The field logbook will be supplemented by COC forms and/or notes recorded on site maps or maps of adjoining properties. All documents generated during the field effort are controlled documents that become part of the project file.

1.7.2 Sample Identification System

Unique site-specific identifiers and sample numbers will be assigned to soil, groundwater, and building samples to establish database integrity, using the sample identification procedures in the FSP. The unique sample identifiers and sample numbers are used to prevent sample number duplication in the database. The unique sample identifier and sample number, as well as the corresponding soil boring, well location, or building location, and sample time and date, will be recorded in the field logbook (and on soil boring logs and other field data sheets, if appropriate). The field analysis data will be recorded in the field logbooks or recorded on data sheets along with sample identification information while in the custody of the sampling team.

In addition, sample labels and COC forms will list the unique sample identifiers and sample numbers, as well as date, time, samplers, and other relevant information.

1.7.3 Hard Copy Analytical Records

The EPA-selected CLP laboratories will be used for analysis of TCL and TAL analytes. These laboratories will provide CLP deliverables consistent with the CLP SOW (Rev. 8/94). After the CLP analyses are complete, the data packages will be sent immediately to EPA for validation before the results are supplied to CH2M HILL.

The non-CLP laboratories, directly subcontracted to CH2M HILL, will provide two hard copies of the data deliverables to CH2M HILL. One copy will be bound for archiving. The other will be unbound for the purpose of data validation/evaluation. The data will be in a CLP-equivalent format to ease the data validation effort.

The non-CLP hardcopy deliverable format will consist of:

1. Table of Contents
2. Case Narrative – containing all relevant information pertaining to any deviations from the established QC criteria
3. Sample Description/Laboratory ID and Client ID Cross Reference
4. Explanation of Abbreviations
5. Analytical Tests Requested by Sample
6. Analytical Results
7. QC Summaries
8. Chain-of-Custody
9. Miscellaneous (FedEx receipts, invoices, sample receipt form, etc.)
10. Volatile GC/MS Supporting Documentation/Raw Data
11. Semivolatile GC/MS Supporting Documentation/Raw Data
12. Metals Supporting Documentation/Raw Data
13. General Chemistry Supporting Documentation/Raw Data
14. Subcontracted Results (Note, all subcontractors must be brought to CH2M HILL's attention for approval prior to utilization)

The independent laboratories shall maintain a record of the data for a period of no less than seven years.

1.7.4 Electronic Analytical Records

CH2M HILL will request that one ASCII text file be generated by the non-CLP independent laboratories. The files will be named "*.txt", where "*" represents the batch sample delivery group (SDG) number. Specific instructions regarding the ASCII text file will be communicated to the laboratory in the laboratory contract or SOW.

The CLP laboratories will supply electronic deliverables in the format specified under the most recent CLP SOW. CH2M HILL is anticipating receipt of validated CLP data from EPA in a Lotus spreadsheet format. This data format will need to be converted to one that is consistent with input requirements of the EquIS database.

1.7.5 Project Record Maintenance and Storage

Project records will be stored and maintained in accordance with CH2M HILL's data management plan (Section 2.11 of this QAPP). Each project team member is responsible for filing all project information or providing it to the administrative assistant familiar with the

project filing system. Individual team members may maintain separate files or notebooks for individual tasks but must provide such files for incorporation into the project files upon completion of each task.

The general project file categories are as follows:

- Correspondence
- Non-laboratory request for proposals (RFPs), Bids, Contracts, SOWs
- Field Data
- Data Evaluation and Calculations
- Site Reports from Others
- Non-laboratory project invoices and approvals by Vendor
- Original Unbound Reports
- Bound Report Copies
- Photographs
- Insurance Documentation
- Laboratory Analytical Data and associated Documents/Memos
- Regulatory Submittals, Licensing, and Permitting Applications
- Site and Reference Material
- Health and Safety Plans
- Figures and Drawings

A project-specific index of file contents will be kept with the project files at all times.

SECTION 2

Measurement and Data Acquisition

This section describes the procedures for collecting, handling, measuring, acquiring, and managing data to be performed in support of the RI/FS. It addresses the following aspects of measurement and data acquisition:

- Sampling process design
- Sampling method requirement
- Coordinating sampling with EPA
- Sample handling and custody requirements
- Laboratory analytical methods requirements
- Laboratory QC requirements
- Field and laboratory instrument calibration and frequency
- Inspection and acceptance requirements for supplies and consumables
- Data acquisition requirements
- Data management process
- Data Management tools
- Field and laboratory instrument and equipment testing, inspection, and maintenance requirements

2.1 Sampling Process Design and Rationale

The FSP provides the sampling and analytical requirements for this project. The SOPs for each field sampling method are provided in or are attached to the FSP. The following media will be sampled and analyzed as part of this project:

- **Soil** (from boring locations designated "SB"), which includes both surface soil (0 to 6 inches below ground surface [bgs]) and subsurface soil (more than 6 inches bgs).
- **Groundwater**, which includes samples from monitoring wells (MW) and a City of Camden municipal well (CW).
- **Investigation derived waste (IDW)**, which consists of wastewater (DL) and sediment (DS) from well drilling, well development, well purging, and decontamination activities (temporarily stored on site in a 20,000-gallon frac tank), and soil cuttings (DS) that have been stored in roll-off containers.

The planned sampling locations, rationale for selection, and analytical parameters for each location are detailed in the FSP. It should be noted that the exact sample locations and the

total number of samples might change from those described in the FSP, depending on field conditions encountered.

2.2 Sampling Methods Requirements

The SOPs for each field sampling method are contained in the FSP. Common sampling and associated procedures include:

- Surface and subsurface soil sampling
- Sample documentation and sample packing and shipping
- Water level and well measurements
- Monitoring well and municipal well sampling
- IDW characterization sampling
- Field measurements (e.g., pH, specific conductance, dissolved oxygen, etc.) and field screening (organic vapor and radiation)
- Personnel and equipment decontamination

The FTL is responsible for assuring that samples are collected in accordance with the SOPs. The FTL may implement corrective actions, as described in Section 2.6.2 of the QAPP, if a need arises to assure data quality and/or personnel health and safety.

2.3 Coordinating Sampling with EPA

To initiate a CLP Analytical Services (CLPAS) request, the RSCC or Regional/Agency designee will contact the appropriate CLASS Coordinator by telephone, fax, or e-mail and provide a complete description of the analytical requirements. The information required to initiate a CLPAS request includes the sampler's name (CH2M HILL), sampler's phone number, site name, city and state where the site is located, site spill identification number, expected date of sample shipment, number of samples, type of analyses, turn-around time, fractions to be analyzed, and sample matrix.

By noon eastern time on the Wednesday of the week prior to the scheduled start of a planned sampling activity, the RSCC or Regions/Agency designee will contact the CLASS Coordinator to place a CLPAS request and to provide scheduling information to the CLASS contractor. This lead-time enables the laboratories to prepare for EPA samples, and to provide for resolution of sampling questions. It also allows the sampler (CH2M HILL) time to prepare the required sample documentation prior to field activity, if appropriate. Late scheduling requests (i.e., requests received between Wednesday noon and the date of sampling) are accommodated with available laboratory capacity. In order to allow the RSCC to satisfy their obligations, CH2M HILL will forward the completed "EPA Region 2 CLP RAS Request Form" as early in the week as possible.

2.4 Sample Handling and Custody Requirements

2.4.1 Sample Preservation and Holding Time

Table 1 summarizes the requirements for sample containers, preservatives, and sample holding times for individual analytical methods and media to be sampled. The sample containers for CLP analyses shall be supplied by a bottle vendor to CH2M HILL and must be certified by the generator/vendor as pre-cleaned. Preservation of these sample containers shall be done in the field. All sample containers supplied by the CH2M HILL-subcontracted, non-CLP laboratories shall be I-CHEM Series 200 type, or equivalent. The laboratory shall follow the "Specifications and Guidance for Obtaining Contaminant-Free Sample Containers", OSWER Directive #9240.0-05 (rev. 6/90). Preservatives will be prepared using reagent grade chemicals and added to the sample bottles by the laboratory prior to shipment to the field site. Samples will be stored on ice to 4°C for preservation.

TABLE 1
SAMPLE CONTAINERS, PRESERVATIVES, AND HOLDING TIMES

Analysis	Method	Container	Preservation/ Storage	Maximum Hold Time
Soil				
TCL VOCs	OLM04.2	Soil = 3x5-gram Encore™ Sampling receptacle and 1x60-ml jar (non-preserved)	4°C	48 hours until preservation by the laboratory
TCL SVOCs	OLM04.2	8-oz bottle, Teflon cap	4°C	7 days to extraction, 40 days from extraction to analysis
TAL Metals	ILM04.1	8-oz bottle, Teflon cap	4°C	6 months
TCL Pesticides/PCBs	OLM04.2	8-oz bottle, Teflon cap	4°C	7 days to extraction, 40 days from extraction to analysis
TOC	Walkley-Black Method	8-oz bottle, Teflon cap	4°C	48 hours
Porosity	ASTM D4404-84	4 oz. Glass jar	NR	NR
Moisture Content	EPA 160.3	4 oz. Glass jar	4°C	NR
pH	SW-846 9045	4 oz. Glass jar	4°C	Immediately
Grain Size	ASTM D422-63	4 oz. Glass jar	NR	NR
Bulk Density	ASTM D4531-86	4 oz. Glass jar	NR	NR
DNAPL	Field Observation	—	—	—
Radioactivity	Field Measurement (Radiation Monitor)	—	—	—

TABLE 1
SAMPLE CONTAINERS, PRESERVATIVES, AND HOLDING TIMES

Analysis	Method	Container	Preservation/ Storage	Maximum Hold Time
Groundwater				
TCL VOCs	OLC03.2	Three 40-mL vials	HCl to pH \leq 2, 4°C	14 days
TCL SVOCs	OLC03.2	Two 1-liter amber glass jars, Teflon cap	4°C	7 days to extraction, 40 days from extraction to analysis
TAL Metals – total and dissolved	ILM04.1	1 L polyethylene bottle	HNO ₃ to pH \leq 2	6 months
– Sulfate *	EPA 375.4	250 mL polyethylene bottle	4°C	28 days
– Sulfide *	EPA 376.1	500 mL polyethylene bottle	4°C, Zn acetate, NaOH to pH > 9	7 days
– Nitrate *	EPA 352.1	100 mL polyethylene bottle	4°C	48 hours
– Chloride *	EPA 300.0	250 mL polyethylene bottle	4°C	28 days
– Methane/Ethane/Ethane *	RSK 175	3 x 40mL amber glass vials	HCL to pH < 2, 4°C	14 days
– Alkalinity *	EPA 310.2	100 mL polyethylene bottle	4°C	14 days
– Carbon Dioxide *	SM 4500-CO2 D	100 mL polyethylene bottle	4°C	Immediately
– TOC *	SW-846 9060	100 mL polyethylene bottle	112504 HCL to pH < 2, 4°C	28 days
– Ferrous Iron (Fe II) *	SM 3500-Fe D	100 mL polyethylene bottle	4°C	Immediately
– TSS*	EPA 160.2	500 mL polyethylene bottle	4°C	7 days
– TDS*	EPA 160.1	100 mL polyethylene bottle	4°C	7 days
– Hardness*	EPA 130.1	100 mL polyethylene bottle	H ₂ SO ₄ to pH < 2, 4°C	6 months
– Total Iron*	SW-846 6010B	500 mL polyethylene bottle	HNO ₃ to pH \leq 2	6 months
– Dissolved Iron*	SW-846 6010B	500 mL polyethylene bottle	HNO ₃ to pH \leq 2	6 months
– Dissolved Arsenic*	SW-846 6010B	500 mL polyethylene bottle	HNO ₃ to pH \leq 2	6 months
– Ammonia*	EPA 350.3	500 mL polyethylene bottle	H ₂ SO ₄ to pH < 2, 4°C	28 days

TABLE 1
SAMPLE CONTAINERS, PRESERVATIVES, AND HOLDING TIMES

Analysis	Method	Container	Preservation/ Storage	Maximum Hold Time
TKN*	EPA 351.3	500 mL polyethylene bottle	H ₂ SO ₄ to pH <2, 4°C	28 days
Nitrite*	EPA 354.1	100 mL polyethylene bottle	4°C	48 hours
Calcium*	SW-846 6010B	500 mL polyethylene bottle	HNO ₃ to pH ≤ 2	6 months
Potassium*	SW-846 6010B	500 mL polyethylene bottle	HNO ₃ to pH ≤ 2	6 months
Manganese*	SW-846 6010B	500 mL polyethylene bottle	HNO ₃ to pH ≤ 2	6 months
Phosphorous, Total*	EPA 365.2	200 mL polyethylene bottle	H ₂ SO ₄ to pH <2, 4°C	28 days
Sodium*	SW-846 6010B	500 mL polyethylene bottle	HNO ₃ to pH ≤ 2	6 months
BOD*	EPA 405.1	1 L polyethylene	4°C	48 hours
COD*	EPA 410.1	100 mL polyethylene	H ₂ SO ₄ to pH <2, 4°C	28 days
Dissolved Oxygen *	Field Measurement	---	---	---
pH *	Field Measurement	---	---	---
Conductivity *	Field Measurement	---	---	---
Temperature *	Field Measurement	---	---	---
Oxidation Reduction Potential *	Field Measurement	---	---	---
Turbidity	Field Measurement	---	---	---
Investigation Derived Waste (characterization sampling)				
TCLP VOCs	SW 846 1311/8260B	Three 40-mL vials	4°C	14 days
TCLP SVOCs	SW-846 1311/8270C	Two 1-liter amber glass jars, Teflon cap	4°C	7 days to extraction, 40 days from extraction to analysis
TCLP Pesticides/PCBs	SW-846 1311/8081	Two 1-liter amber glass jars, Teflon cap	4°C	7 days to extraction, 40 days from extraction to analysis
TCLP Metals	SW-846 1311/6010B or 7000 series	500 mL polyethylene	4°C	6 months

TABLE 1
SAMPLE CONTAINERS, PRESERVATIVES, AND HOLDING TIMES

Analysis	Method	Container	Preservation/ Storage	Maximum Hold Time
TCL VOCs	OLC03.2	Three 40-mL vials	HCl to pH \leq 2, 4°C	14 days
TCL SVOCs	OLC03.2	Two 1-liter amber glass jars, Teflon cap	4°C	7 days to extraction, 40 days from extraction to analysis
TCL Pesticides/PCBs	OLC03.2	Two 1-liter amber glass jars, Teflon cap	4°C	7 days to extraction, 40 days from extraction to analysis
TAL Metals	ILM04.1	1L polyethylene bottle, Teflon cap	HNO ₃ to pH \leq 2	6 months

— = Not applicable

* Indicates Natural Attenuation parameter selected from Table 2.3 of EPA's *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater*, 1998. The VOC parameters from Table 2.3 (BTEX, PCE, TCE, DCE, VC, DCA, 1,1,1-TCE, carbon tetrachloride, chloroethane, and chloroform) will be analyzed as part of TCL VOC list.

2.4.2 Sample Custody and Shipping Requirements

2.4.2.1 Sample Custody

The sample custody procedures include the use of field logbooks, sample labels, custody seals, COC forms, and database tracking. Each person involved with sample handling must be trained in COC procedures before the start of field operations. The COC form must accompany the samples during shipment from the field to the laboratory.

A sample is under custody under the following conditions:

- It is in one's actual possession.
- It is in one's view, after being in one's physical possession.
- It was in one's physical possession and that person locks it up to prevent tampering.
- It is in a designated and identified secure area.

Each laboratory receiving samples from this project must comply with the laboratory sample custody requirements outlined in the laboratory's own quality assurance plan (QAP). A field team member or project chemist will notify the RSCC or non-CLP laboratory (and the CH2M HILL Project EIS) of upcoming field sampling activities and the subsequent transfer of samples to the laboratory. This notification will include information concerning the number and type of samples to be shipped and the expected date of arrival. Additional details about laboratory sample custody are provided in the analytical laboratory QAP or most recent CLP SOW.

2.4.2.2 Sample Shipping and Chain of Custody

Proper sample handling, shipment, maintenance of a COC, sample tracking and recordkeeping are key components of building the documentation and support for data that can be used to make project decisions. It is important that all sample handling and sample COC requirements are performed completely, accurately, and consistently.

A properly completed COC form, either manually or through *FORMS II-Lite*, will accompany samples to the laboratory. The unique sample identifiers, numbers and descriptive information (soil boring or well location, date, time, etc.) will be listed on the COC form. When transferring possession of samples, the individuals relinquishing and receiving them will sign, date, and note the time on the record. The COC record documents transfer of sample custody from the sampler to the offsite laboratory.

The samples will be properly packaged for shipment and dispatched to the appropriate laboratory for analysis with a separate signed custody record enclosed in each sample box or cooler. Samples will be shipped to the laboratory using an overnight delivery service. The following sample packaging and shipping procedures are minimal requirements.

Prepare Bottles for Shipment

- Affix appropriate adhesive labels from assigned traffic report to each container. Protect with clear label tape
- Arrange decontaminated sample containers in groups by sample number
- Ensure sample lids are tight
- Arrange containers in front of assigned cooler
- Enclose each sample in a clear resealable bag making sure that sample labels are visible

Prepare Coolers for Shipment

- Tape drains shut
- Affix "This Side Up" labels on all four sides and "Fragile" labels on at least two sides of each cooler
- Place mailing label with laboratory address on top of the coolers
- Place inert cushioning material in the bottom of the cooler
- Place appropriate tracking reports, packing lists and chain of custody records with corresponding custody seals on top of each cooler
- Double bag and seal loose ice in resealable plastic bags to prevent melting ice from soaking the packing material. Place sufficient ice in cooler to maintain the internal temperature at 4°C during transport
- Fill cooler with enough absorbent material and packing material to prevent breakage of the sample bottles and to absorb the entire volume of the liquid being shipped
- Sign chain of custody form and indicate the time and date it was relinquished to carrier

- Separate copies of the forms. Seal proper document copies within large resealable plastic bag and tape to inside of the cooler
- Close cooler and place custody seals over opposite corners of the cooler. Cover seals with clear plastic tape
- Secure cooler with strapping tape
- Relinquish cooler to carrier

Commercial carriers are not required to sign off on the custody form as long as the custody form is sealed inside the sample cooler and the custody seals remain intact. The COC form identifying the contents will accompany all shipments. The original record will accompany the shipment, and the field copies will be retained by the sampler. A copy of the field copy will then be forwarded to EPA's RSCC and CLASS and the CH2M HILL EIS for data tracking and management. The copy of the COC form will be used to answer questions from the analytical laboratory regarding that day's sample shipment.

2.4.2.3 Laboratory Sample Custody

The analytical laboratories must comply with the laboratory sample custody requirements as outlined in the appropriate CLP SOW or the subcontracted laboratory's internal COC SOP. The FTL or project chemist will notify the laboratory of upcoming field sampling activities and the subsequent transfer of samples to the laboratory. This notification will include information concerning the number and type of samples to be shipped, and the expected date of arrival.

2.5 Analytical Method and Quality Control Requirements

Samples will be analyzed using EPA-approved methods or other recognized standard methods. The principal sources for analytical methods, in order of preference, are:

- EPA CLP Laboratory Analytical Procedures
- SW-846, Test Methods for Evaluating Solid Wastes
- Water/Wastewater EPA Methods

Table 1 lists the analytical methods to be used in analyzing the target compounds. The methods are expected to be sufficient for the data needs of the project.

Nominal reporting limits are shown in the analyte tables for the selected analytical methods. The scope of the method and a summary of the analytical QA/QC are provided in this document. The QA/QC criteria for non-CLP SOW methods are those listed in Attachment 1 to this QAPP. The QA/QC criteria for the CLP analytical methods are those stated within the referenced CLP SOWs. For comparison purposes, Attachment 2 contains the New Jersey Specific Groundwater Quality Criteria and Soil Cleanup Criteria.

2.5.1 VOC Analysis

The site samples will be analyzed in accordance with the analytical protocol taken from EPA CLP SOW method OLC03.2 for aqueous samples (*Organic Low Concentration Statement of*

Work) and OLM04.2 for solid samples (*Organic Statement of Work*). Methods OLC03.2 and OLM04.2 are to be used for soil and groundwater sample analyses, respectively. The CLP compound list and CLP SOW-required detection limits are those provided in Table 2.

The non-CLP analytical laboratories will use method SW-846 8260B to analyze the selected soil samples and TCLP extracts for VOCs. The solid reporting limits (RLs) to be used by the contracted laboratories are provided in Table 2.

The QC requirements for method 8260B are contained within Attachment 1 to this QAPP.

2.5.2 SVOC Analysis

The site samples will be analyzed in accordance with analytical protocol taken from EPA CLP SOW method OLC03.2 (*Organic Low Concentration Statement of Work*) for aqueous samples and OLM04.2 (*Organic Statement of Work*) for soil samples. Methods OLC03.2 and OLM04.2 are to be used for the CLP soil and groundwater analyses, respectively. The CLP compound list and required CLP SOW-required reporting limits are provided in Table 3.

The non-CLP analytical laboratories will use method SW-846 8270C to analyze for SVOCs in the selected soil samples, and TCLP extracts. The solid RLs to be used by the contracted laboratories are provided in Table 3. The QC requirements for method 8270C are contained within Attachment 1 to this QAPP.

2.5.3 Metals Analysis

The site soil and groundwater samples will be analyzed in accordance with analytical protocol taken from EPA CLP Method ILM04.1 (*Inorganic Statement of Work*). The CLP compound list and CLP SOW-required RLs are listed in Table 4.

The non-CLP analytical laboratories will use methods SW-846 6010B, 9012A, and other 7000-series methods to analyze for inorganic compounds and cyanide in selected soil samples, and in TCLP extracts. The solid RLs to be used by the contracted laboratories are provided in Table 4.

The QC requirements for methods 6010B, 9012A, and other 7000 series methods are contained in Attachment 1 to this QAPP.

2.5.4 Pesticide/PCB Analysis

The site soil and groundwater samples will be analyzed in accordance with the analytical protocol taken from EPA CLP Method OLC03.2 (*Organic Low Concentration Statement of Work*) for aqueous samples and OLM04.2 (*Organic Statement of Work*) for soil samples. Methods OLC03.2 and OLM04.2 are to be used for soil and groundwater analyses, respectively. The CLP compound list and CLP SOW-required RLs are provided in Table 5.

The non-CLP analytical laboratories will use methods SW-846 8081A and 8082 to analyze for Pesticides and PCBs, respectively, in selected soil samples, and TCLP extracts. The solid RLs to be used by the contracted laboratories are provided in Table 5.

The QC requirements for methods 8081A/8082 are contained within Attachment 1 to this QAPP.

2.5.5 Non-CLP Analyses to be Performed

The analyses listed in Table 6 will be performed by the CH2M HILL-subcontracted, non-CLP laboratories in accordance with the specifications of the designated EPA methods and with the QC limits presented in Attachment 1 to this QAPP.

TABLE 2
TCL VOC LIST AND REQUIRED REPORTING LIMITS FOR CLP METHODS AND SW-846 METHOD 8260B

		Water ¹	Solid ²			Water ¹	Solid ²
Compound		RL (µg/L)	RL (µg/kg)	Compound		RL (µg/L)	RL (µg/kg)
1	Acetone	5.0	10	26	1,2-Dichloropropane	0.5	10
2	Benzene	0.5	10	27	cis-1,3-Dichloropropene	0.5	10
3	Bromodichloromethane	0.5	10	28	trans-1,3-Dichloropropene	0.5	10
4	Bromoform	0.5	10	29	Ethylbenzene	0.5	10
5	Bromomethane	0.5	10	30	2-Hexanone	5.0	10
6	2-Butanone	5.0	10	31	Methyl acetate	0.5	10
7	Carbon disulfide	0.5	10	32	Methylene chloride	0.5	10
8	Carbon tetrachloride	0.5	10	33	4-Methyl-2-pentanone	5.0	10
9	Chlorobenzene	0.5	10	34	Styrene	0.5	10
10	Chloroethane	0.5	10	35	1,1,2,2-Tetrachloroethane	0.5	10
11	Chloroform	0.5	10	36	Tetrachloroethene	0.5	10
12	Chloromethane	0.5	10	37	Toluene	0.5	10
13	Dibromochloromethane	0.5	10	38	1,1,1-Trichloroethane	0.5	10
14	1,1-Dichloroethane	0.5	10	39	1,1,2-Trichloroethane	0.5	10
15	1,2-Dichloroethane	0.5	10	40	Trichloroethene	0.5	10
16	1,1-Dichloroethene	0.5	10	41	Bromochloromethane	0.5	10
17	Cis-1,2-Dichloroethene	0.5	10	42	Vinyl chloride	0.5	10
18	Trans-1,2-dichloroethene	0.5	10	43	1,1,2-Trichloro-1,2,2-trifluoroethane	0.5	10
19	Dichlorodifluoromethane	0.5	10	44	Xylenes (total)	0.5	10
20	Methyl tert-butyl ether	0.5	10	45	1,4-Dichlorobenzene	0.5	10
21	Cyclohexane	0.5	10	46	1,2-Dichlorobenzene	0.5	10
22	Methylcyclohexane	0.5	10	47	1,2-Dibromo-3-chloropropane	0.5	10
23	1,2-Dibromomethane	0.5	10	48	1,2,4-Trichlorobenzene	0.5	10
24	Isopropyl benzene	0.5	10	49	1,3-Dichlorobenzene	0.5	10
25	Trichlorofluoromethane	0.5	10	50	1,2,3-Trichlorobenzene	0.5	10

Soil results must be reported on a dry weight basis.

Soil RLs will vary between samples and must be included with individual sample results.

1 = CLP method OLC03.2

2 = CLP method OLM04.2 and SW-846 method 8260B

TABLE 3
SVOC LIST AND REQUIRED REPORTING LIMITS FOR CLP METHODS AND SW-846 METHOD 8270C

		Water ¹	Solid ²			Water ¹	Solid ²
Compound		RL (µg/L)	RL (µg/kg)	Compound		RL (µg/L)	RL (µg/kg)
1	Acenaphthene	5.0	330	34	4,6-Dinitro-2-methylphenol	20	830
2	Acenaphthylene	5.0	330	35	2,4-Dinitrophenol	20	330
3	Anthracene	5.0	330	36	2,4-Dinitrotoluene	5.0	330
4	Benzoic acid	5.0	330	37	2,6-Dinitrotoluene	5.0	330
5	Benzo(a)anthracene	5.0	330	38	Fluoranthene	5.0	330
6	Benzo(b)fluoranthene	5.0	330	39	Fluorene	5.0	330
7	Benzo(k)fluoranthene	5.0	330	40	Hexachlorobenzene	5.0	330
8	Benzo(g,h,i)perylene	5.0	330	41	Hexachlorobutadiene	5.0	330
9	Benzo(a)pyrene	5.0	330	42	Hexachlorocyclopentadiene	5.0	330
10	Bis(2-Chloroethoxy)methane	5.0	330	43	Hexachloroethane	5.0	330
11	Bis(2-Chloroethyl)ether	5.0	330	44	Indeno(1,2,3-cd)pyrene	5.0	330
12	Bis(2-Chloroisopropyl)ether	5.0	330	45	Isophorone	5.0	330
13	Bis(2-Ethylhexyl)phthalate	5.0	330	46	2-Methylnaphthalene	5.0	330
14	4-Bromophenyl phenyl ether	5.0	330	47	2-Methylphenol	5.0	330
15	Butyl benzyl phthalate	5.0	330	48	4- Methylphenol	5.0	330
16	4-Chloroaniline	5.0	330	49	Naphthalene	5.0	330
17	4-Chloro-3-methylphenol	5.0	330	50	2-Nitroaniline	20	830
18	2-Chloronaphthalene	5.0	330	51	3-Nitroaniline	20	830
19	2-Chlorophenol	5.0	330	52	4-Nitroaniline	20	830
20	4-Chlorophenyl phenyl ether	5.0	330	53	Nitrobenzene	5.0	330
21	Chrysene	5.0	330	54	2-Nitrophenol	5.0	330
22	Dibenz(a,h)anthracene	5.0	330	55	4-Nitrophenol	20	830
23	Dibenzofuran	5.0	330	56	N-Nitrosodiphenylamine	5.0	330
24	Di-n-butyl phthalate	5.0	330	57	N-Nitrosodi-n-propylamine	5.0	330
25	Di-n-octyl phthalate	5.0	330	58	Pentachlorophenol	5.0	830
26	1,2-Dichlorobenzene	5.0	330	59	Phenanthrene	5.0	330
27	1,3-Dichlorobenzene	5.0	330	60	Phenol	5.0	330
28	1,4-Dichlorobenzene	5.0	330	61	Pyrene	5.0	330
29	3,3'-Dichlorobenzidine	5.0	330	62	1,2,4-Trichlorobenzene	5.0	330
30	2,4-Dichlorophenol	5.0	830	63	2,4,5-Trichlorobphenol	20	830
31	Diethyl phthalate	5.0	330	64	2,4,6-Trichlorophenol	5.0	330
32	2,4-Dimethylphenol	5.0	330	65	2,4,5-Trichlorobphenol	5.0	330
33	Dimethyl phthalate	5.0	330				

Soil results must be reported on a dry weight basis.

Soil RLs will vary between samples and must be included with individual sample results.

1 = CLP method OCL03.1

2 = CLP method OLM04.2 and SW-846 method 8270C

TABLE 4
TARGET ANALYTE LIST AND REQUIRED REPORTING LIMITS FOR CLP METHOD ILM04.1 AND SW-846 METHODS
6010B, 9012A, AND 7000 SERIES METHODS

		Water	Solid			Water	Solid
		RL ($\mu\text{g/L}$)	RL (mg/kg)			RL ($\mu\text{g/L}$)	RL (mg/kg)
1	Aluminum	200	40	13	Lead	3	0.6
2	Antimony	60	12	14	Magnesium	5000	1000
3	Arsenic	10	2	15	Manganese	15	3
4	Barium	200	40	16	Mercury	0.2	0.1
5	Beryllium	5	1	17	Nickel	40	8
6	Cadmium	5	1	18	Potassium	5000	1000
7	Calcium	5000	1000	19	Selenium	5	1
8	Chromium	10	2	20	Silver	10	10
9	Cobalt	50	10	21	Sodium	5000	1000
10	Copper	25	5	22	Thallium	10	2
11	Cyanide	10	1	23	Vanadium	50	10
12	Iron	100	20	24	Zinc	20	4

Soil results must be reported on a dry weight basis.

Soil RLs will vary between samples and must be included with individual sample results.

TABLE 5
TARGET ANALYTE LIST AND REQUIRED REPORTING LIMITS FOR CLP METHODS AND SW-846 METHOD 8081A/8082

		Water ¹	Solid ²			Water ¹	Solid ²
Analyte		RL (µg/L)	RL (µg/kg)	Analyte		RL (µg/L)	RL (µg/kg)
1	alpha-BHC	0.01	1.7	15	4,4'-DDT	0.02	3.3
2	beta-BHC	0.01	1.7	16	Methoxychlor	0.10	17
3	delta-BHC	0.01	1.7	17	Endrin ketone	0.02	3.3
4	gamma-BHC (Lindane)	0.01	1.7	18	Endrin Aldehyde	0.02	3.3
5	Heptachlor	0.01	1.7	19	Alpha-chlorodane	0.01	1.7
6	Aldrin	0.01	1.7	20	Gamma-chlorodane	0.01	1.7
7	Heptachlor epoxide	0.01	1.7	21	Toxaphene	1.0	170
8	Endosulfan I	0.01	1.7	22	Aroclor-1016	0.20	33
9	Dieldrin	0.02	3.3	23	Aroclor-1221	0.40	67
10	4,4'-DDE	0.02	3.3	24	Aroclor-1232	0.20	33
11	Endrin	0.02	3.3	25	Aroclor-1242	0.20	33
12	Endosulfan II	0.02	3.3	26	Aroclor-1248	0.20	33
13	4,4'DDD	0.02	3.3	27	Aroclor-1254	0.20	33
14	Endosulfan Sulfate	0.02	3.3	28	Aroclor-1260	0.20	33

Soil results must be reported on a dry weight basis.

Soil RLs will vary between samples and must be included with individual sample results.

1 = CLP method OCL03.2

CLP method OLM04.2 and SW-846 methods 8081A and 8082

TABLE 6
REPORTING LIMITS FOR NON-CLP ANALYSES

Analysis	Method	Reporting Limit
Soil		(mg/Kg)
Bulk Density	ASTM D2937-94	—
Grain Size	ASTM D422	0.5%
Moisture Content	EPA 1603	—
PH	SW-846 9045	—
Porosity	ASTM D4404-84	—
Total Organic Carbon	SW-846 Method 9060	1
TCLP	See Table 3	—
Groundwater		(mg/L)
Sulfate	EPA 375.4	1.0
Sulfide	EPA 376.1	1.0
Chloride	EPA 300.0	1.0
Methane/Ethene/Ethane	RSK 175	0.5 ug/L
TSS	EPA 160.2	4
TDS	EPA 160.1	10
Hardness	EPA 130.2	1
Total Iron	SW-846 6010B	0.1
Dissolved Iron	SW-846 6010B	0.1
Ammonia	EPA 350.3	1
TKN	EPA 351.3	1
Nitrate	EPA 352.1	0.5
Nitrite	EPA 354.1	0.3
Calcium	SW-846 6010B	5
Potassium	SW-846 6010B	5
Manganese	SW-846 6010B	0.015
Phosphorous, Total	EPA 365.2	0.01
Sodium	SW-846 6010B	5
BOD	EPA 405.1	1
COD	EPA 410.1	1
Alkalinity	EPA 310.2	1
Carbon Dioxide	SM 4500-CO2 D	1
TOC	SW-846 9060	1
Ferrous Iron (Fe II)	SM 3500-Fe D	1
pH	Field Measurement	—
Dissolved Oxygen	Field Measurement	—
Specific Conductance	Field Measurement	—
Temperature	Field Measurement	—
Oxidation Reduction Potential	Field Measurement	—
Turbidity	Field Measurement	—

— = Not applicable

2.6 Quality Control Procedures

2.6.1 Quality Control Samples

The CLP and non-CLP analytical laboratories have QC programs to assess the reliability and validity of the analyses being performed. The purpose of QC samples is to aid in the assessment of the precision and accuracy of the analytical results. The collection of QC samples is discussed in more detail in the FSP. A table outlining the number of QC samples to be collected is included as Table 3-1 in the FSP.

The QC procedures for field parameter measurements include calibrating or verifying the calibration of the field instruments daily (more frequently if required), measuring duplicate samples at a frequency of 10 percent, and checking the reproducibility of the measurements by taking multiple readings from a single sample at a frequency of 10 percent.

Trip blanks (TB) will be used to detect VOC contamination during sample shipping and handling, to assess possible contamination through sample transportation. The subcontracted, non-CLP analytical laboratories will provide trip blank samples to be analyzed. CH2M HILL will prepare trip blanks that will be sent with the VOC samples to be analyzed by the CLP laboratories. Trip blanks will consist of a preserved, certified clean VOC sample vial filled with ASTM Type II water or contaminant-free laboratory water. The vials will contain no air bubbles. One trip blank sample will be sent for each day VOC samples are shipped to the laboratory, in each cooler containing VOC samples. Corrective action measures will be implemented if analyte concentrations are greater or equal to the specified reporting limits.

Equipment rinse blanks (EB) are samples of ASTM Type II water passed through and over the surface of decontaminated sampling equipment. The rinse water is collected in sample bottles, preserved, and handled in the same manner as the field samples. EBs are used to monitor effectiveness of the decontamination process. The typical frequency for EBs is 1 per 20 field samples, or 5 percent. Typically, if more than one type of equipment is used to collect samples for a particular matrix, an EB is collected and submitted for each representative group of equipment. EBs will be analyzed for the same analytes as the corresponding samples. Corrective action measures will be implemented if analyte concentrations are greater than or equal to the specified reporting limits.

Duplicate or "blind" field samples (field duplicate samples) are collected to monitor the precision of the field sampling process. The identity of the duplicate samples is not noted on the laboratory COC form. The FTL will select 1 of every 20 sample locations for collection of a field duplicate sample for each sample medium. The identity of the duplicate samples will be recorded in the field-sampling logbook. Aqueous field duplicate samples will be collected by filling the native sample first and then filling the duplicate sample container immediately following. Soil field duplicate samples will be collected by homogenizing the field sample and then collecting two samples from the same sample volume. VOC soil duplicate samples can not be taken in this manner. VOC soil duplicates (co-located samples) will be obtained by first collecting the native sample and then collecting the duplicate sample as close as possible to the native sample. The precision required for field duplicates varies depending on the matrix. Corrective action measures will be implemented if aqueous duplicate sample results are ± 20 percent when compared to the native sample. Due to

concrete and soil sample heterogeneity, corrective action measures will be implemented if solid matrix duplicate sample results are ± 30 percent when compared to the native sample. Professional judgement will also be used in the evaluation of the field duplicate samples.

Matrix spike (MS) and matrix spike duplicate (MSD) samples are collected to assess possible matrix interference with analyte recoveries in the samples. One MS and one MSD sample pair will be collected for every 20 water and soil samples. Corrective action measures will be taken if percent recoveries are outside those stated in Attachment 1 to this QAPP.

2.6.2 Field and Laboratory Corrective Action

2.6.2.1 Field Corrective Action

Any project team member may initiate a field corrective action process. The corrective action process consists of identifying a problem, acting to eliminate the problem, monitoring the effectiveness of the corrective action, verifying that the problem has been eliminated, and documenting the corrective action.

Corrective actions include correcting COC forms, problems associated with sample collection, packaging, shipping, field recordkeeping, or additional training in sampling and analysis. Additional approaches may include resampling or evaluating and amending sampling procedures. The team member in charge of field operations (the FTL) will summarize the problem, establish possible causes, and designate the person responsible for a corrective action. The FTL will verify that the action has been taken and that it appears to be effective. The FTL will additionally follow up at a later date to verify that the problem has been resolved. The EIS will be notified by the FTL or project chemist of all corrective actions in order to insure that the project database contains current and accurate data.

2.6.2.2 Laboratory Corrective Action

The laboratory department supervisors' review the data generated to verify that all QC samples have been run as specified in the procedure. Laboratory personnel are alerted that corrective actions may be necessary under the following conditions:

- QC data are outside the warning or acceptable windows for precision and accuracy established for laboratory samples
- Blanks contain contaminants at concentrations above the reporting limits specified in this QAPP
- Deficiencies are detected by the laboratory QA director during internal or external audits, or from the results of performance evaluation samples

Corrective actions are implemented immediately when nonconformances in QC sample results are identified by the bench analyst. Corrective action procedures are handled initially at the bench level by the analyst, who reviews the preparation or extraction procedure for possible errors and checks such parameters as instrument calibration, spike and calibration mixes, and instrument sensitivity.

The analyst immediately notifies his or her supervisor of the problem and the investigation being done. If the problem persists or cannot be identified, the matter must be referred to the laboratory supervisor and QA/QC officer for further investigation. All CLP laboratory

QC problems that will affect the final data must be discussed with the EPA RSCC or CH2M HILL Chemist/SM as part of the corrective action process. Once resolved, full documentation of the corrective action procedure must be filed with the laboratory supervisor, and the QA/QC officer must be provided with a corrective action memorandum for inclusion into the project file if data are affected.

Corrective actions may include:

- Reanalyzing suspect samples
- Recalibration with new standards
- Eliminating blank contamination
- Resampling and analyzing new samples
- Evaluating and amending sampling and analytical procedures
- Accepting data with an acknowledged level of uncertainty
- Recalibrating analytical instruments
- Qualifying or rejecting the data

After implementation of the required corrective action measures, data deemed unacceptable may not be accepted by the SM and follow-up corrective actions may be explored. Details of laboratory corrective actions are in the Laboratory's QAP. CH2M HILL assumes that all internal CLP laboratory corrective measures will be resolved by EPA prior to the submittal of validated data deliverables to CH2M HILL. For non-CLP laboratories, CH2M HILL reserves the right to perform an external laboratory audit, if deemed necessary as part of a corrective measures initiative.

2.7 Instrument / Equipment Testing, Inspection, and Maintenance Requirements

Field equipment testing, inspection, and maintenance will be in accordance with the SOPs in the FSP as well as instrument-specific operation manuals.

Laboratory equipment testing, inspection, and maintenance will be in accordance with the laboratory's QAP. The laboratory QAP will discuss the schedule, procedures, criteria, and documentation for verifying that all analytical equipment is operating in an accurate and precise manner. Laboratory equipment testing and inspection will also be evaluated through the analysis of QC samples.

2.8 Instrument Calibration and Frequency

2.8.1 Field Instruments

Because instruments used during field activities may be of several models and manufacturers, it is not feasible to present instrument-specific details in this section. Instrument-specific calibration must be performed in accordance with the manufacturer's instruction.

Field instruments will be calibrated daily in accordance with manufacturers' specifications before the beginning of sampling activities. For field instruments calibrated by the manufacturer, calibration will be verified daily. Standards used to calibrate the field survey instruments will be traceable to the standards of the National Institute of Standards and Technology whenever possible. Examples of methods and frequency of calibration for instruments described in the manufacturers' instructions are provided below.

Instrument	Calibration Activity	Frequency
OVM-PID	Calibrate to isobutylene and zeroed to ambient air or background levels	Beginning of each sampling day
OVA-FID	Calibrate to 100 ppm methane	Beginning of each sampling day
pH Meter	Calibrate against standard pH solutions (either 4.0 and 7.0 SU, or 7.0 and 10.0 SU)	Beginning of each sampling day
Field Multi-meter	Check pH, temperature, conductivity, oxidation reduction potential, turbidity, and dissolved oxygen with known solutions	Beginning of each sampling day
Radiation Monitor	Calibrate against radiation standard	Beginning of each sampling day

If a field instrument cannot be adjusted to be within calibration, documentation of the deficiency will be made in the field logbook and the instrument must not be used and be replaced with a functioning instrument.

2.8.2 Laboratory Equipment

Laboratory instruments will be calibrated in accordance with manufacturers' directions and applicable method specifications. Laboratory instrument calibration procedures are summarized in the laboratory QAP, which will be reviewed and approved by the lead chemist before samples are submitted for analysis. The laboratory QAP shall be supplied upon request.

2.9 Inspection / Acceptance Requirements for Supplies and Consumables

It is expected that several contractors will provide various services to multiple projects. The required services must meet the project scope, specified levels of quality, and the submittal schedule. The FTL will inspect each item supplied by subcontractors or vendors before they are deemed acceptable for use in the field. All unacceptable supplies will not be used in the project.

2.10 Data Acquisition Requirements

This subsection introduces the subject of data acquisition, identifies the components of data acquisition, and provides a reference for more detailed information. The data requirements are outlined in the scopes of work supplied to the subcontracted laboratory(ies) or the most

recent CLP SOW. It discusses the flow of information and data from planning through reporting including data obtained through non-direct measurements.

2.10.1 Data Acquisition Planning

In the data acquisition planning activity, the project team outlines the RI objectives, primary outputs, data formats, and data that will be collected. Data acquisition is focused on collecting the minimal amount of data necessary to create the desired outputs. Project objectives are outlined in detail in the project Work Plan and summarized in the DQO process discussed in Section 1.5 of this QAPP. Typically, the data needed to achieve the project objectives include site maps, sampling location selection, sampling location coordinates, data qualifiers, and sample identifiers, laboratory method selection and detection limit verification, analytical parameter lists and critical values, field parameter measurement list, and a project schedule. This information is included in a combination of the project Work Plan, FSP, and this QAPP.

As part of the setup activity, the team defines the historic and reference information to be used. If previous analytical information for the site is available, the project team will evaluate its data quality and confirm its accuracy in the database. Data that does not contain sufficient quality will not be used in the planning of the project. The product of this activity is a database containing complete and accurate site-specific reference information.

2.10.2 Field Data Acquisition

During field data acquisition, the field team performs the sample collection and field analytical work. This activity includes surveying, water level measurement, and collecting stratigraphic and hydrogeologic information in accordance with the SOPs located in the FSP. The product of these activities is a field data set that is complete, accurate and properly formatted. This dataset will be reviewed and approved by the project chemist before being sent to the EIS for processing.

Sample labels will be generated through the software program *FORMS II-Lite* and will be supplied to the field team. COC records completed either manually or through the software program *FORMS II-Lite*, are signed by the sampler, and accompany the sample bottles in the cooler shipped to the laboratory. Copies of the COC records are placed into the project files and used to track work received from the laboratory. Copies of COC records will also be forwarded to the EPA RSCC and CLASS, and CH2M HILL's EIS, to form the basis for establishing sampling records within the database.

2.10.3 Laboratory Data Acquisition and Reporting

During the laboratory data acquisition activity, the laboratory performs the sample analyses and generates hard copy and EDD analytical reports that have been processed through the Lab Data Checker within the turn-around time stated in the appropriate laboratory's SOW. The laboratory's Data Quality Manager verifies hard copy and electronic deliverables before they are released. The hard copy and electronic reports must match the requested sample analyses. The product of this activity is accurate and complete analytical information ready for data validation and database entry.

2.10.4 Data Quality Evaluation (Validation) Data Entry and Reporting

The EPA will perform the data validation for the CLP analyses of the project while CH2M HILL will subcontract data validation for the non-CLP analyses. CH2M HILL's Project Chemist will review the results of the validation efforts. Ten percent of the data validated through the subcontract will be evaluated to assess the accuracy of the validation efforts. This evaluation will include checking the complete Chain-of-Custody against the laboratory Form Is, the data validation reports, and the electronic data to make sure all analyses asked for were performed and reported and that no errors appear in the sample ID name. In addition, 10% to 100% (as deemed necessary) of the results will be checked for accuracy of the concentrations and data validation qualifiers by checking the laboratory case narrative, data validation reports, reporting forms and electronic data spreadsheets. The electronic data will be converted as necessary, uploaded to the EquiS database, and verified against the hard copy reports.

2.11 Data Management Plan

This DMP defines the responsibilities and procedures for sample tracking, data formats, data processing, data management personnel, and expected outputs from the database (i.e., RI report tables and figures and statistical analyses for the human health risk assessment), and the database and visualization software that will be used. In addition to compiling data gathered during the remedial investigation, data gathered during previous site investigations will be reviewed, reformatted, consolidated and compiled into a project environmental database system, which can be used to evaluate site conditions and data trends. This DMP will serve as a guide for all database users. The DMP is subject to future revision to allow for modifications as implementation of the database management system proceeds.

Data management for the project has the following objectives:

- Establish a controlled, functional, and efficient data management system and accompanying procedures to collect, format, process, analyze, report/present, and transfer the environmental data that are collected and generated during the investigation.
- Maintain a usable and accurate database throughout the life of the project.
- Process specific data requests from project team members.
- Transfer the database or specific data components to EPA and other parties, as appropriate.
- Archive the database and related documentation upon project closeout.

2.11.1 Data Types

Activities performed at the site will involve accessing a number of different types of data collected or retained for various uses. The following generally describes the overall contents of the project database, based upon the available data and data to be collected.

2.11.1.1 Screening Data

Screening data typically include such field measurements as temperature, pH, and specific conductance. Screening data will also include organic vapor screening completed to monitor breathing zone or vapors emanating from a soil or water sample as well as on-site radiation monitoring. Screening data are generally used based upon very limited QA/QC and documentation in comparison to the rigorous review of data quality required for the definitive data sets.

The FTL or if appropriate, the Project Chemist, will review the screening data and accept or qualify them. Unusual readings will be recorded in the field logbook, along with the rationale for accepting or qualifying the data. In order for the FTL to review the results, the following types of field data will be recorded in the field logbooks by trained field personnel:

- Instrument identification
- Calibration information and/or verification (standards utilized and results)
- Date and time of calibration and sample measurement
- Sample results
- Supporting information (e.g., temperature for pH reading)

2.11.1.2 Definitive Data

Definitive data are data of known quality. The definitive data results are:

- used to show that an area has or has not been impacted (e.g., Geoprobe™ samples) by site-related activities;
- used in the identification of site-related source area;
- used to evaluate the nature and extent of site-related constituents;
- used for remedial action design (such as alkalinity, hardness, grain size); and
- collected for risk assessment purposes.

Definitive data can be generated by various measurements, ranging from onsite field analyses to laboratory analyses.

In the evaluation of definitive data, not all data require the same effort for validation. For example, in assessing the extent of site-related constituents, only samples that mark the boundary between "present" and "not present" areas may require full validation. The level of validation for results near or at the critical values will be more detailed in order to assess whether the project objectives have been met. Sample results from the interior of impacted areas may only require minimal review to make the same assessment.

Screening and definitive data include both data collected during previous investigations and newly acquired data that will be used to further characterize the site. These data are defined as either "Historical Data" or "Site Characterization Data."

2.11.1.3 Historical Data

The historical data compiled to date include information collected by other parties to characterize conditions at the site. That information includes both chemical and physical data for the site and surrounding area, and is summarized in the Draft RI Report (L. Robert Kimball and Associates, June 2000). The historical data will be reviewed to assess the level of quality and acceptability. The acceptable level of error in the historical data is very low because the historical data, along with the site characterization data, will guide this RI.

2.11.1.4 Site Characterization Data

The FSP identifies additional data to be collected for further characterization of the site. These data will be added to the project database as they become available. The data will include screening and engineering data collected in the field and laboratory data that has been validated by both EPA and CH2M HILL's subcontractor. The source of the data will be noted in the database. Procedures for incorporating the data into the database are presented in subsequent sections of this DMP.

2.11.2 Data Tracking and Management

2.11.2.1 Hard Copy

Measurements made during field data collection activities will be recorded in the field logbooks. Field logbooks will be consecutively paginated with the data, field team members, and weather conditions recorded for each day of sampling. Indelible ink pens will be used to make entries into the logbook. The field data will be reviewed, summarized and where applicable, loaded into the database. These data will also be stored along with the field logbooks.

All raw analytical laboratory data are stored as the original hard copy. Hard copy information includes chain-of-custody forms, analytical bench sheets, instrument printouts and chromatograms, certificates of analyses, and QA/QC report summaries. The non-CLP analytical laboratories will supply two copies of the hard copy analytical reports and EDD to CH2M HILL. The CLP laboratory will supply the hard copy reports directly to the EPA, and EPA will provide hard copy reports and EDD of the validated data to CH2M HILL.

2.11.2.2 Data Input Procedures

The sampling information, analytical results, applicable QA/QC data, and data validation qualifiers will be entered into an environmental database for storage and retrieval during data evaluation and report development. The data will be manually and electronically entered into the database from files received from the analytical laboratory and the field team. The correct data entry will be confirmed by printing data reports and manually comparing them to the hard copy deliverables from the laboratory and field team. The correct manual entry of the historical data will be confirmed by comparing a hard copy printout of the entered data to the hard copy used to perform the data entry. All data entry validation procedures and results will be documented.

2.11.3 Computer Database

The Remedial Investigation Data Management System (RIDMS) will be created. Both the historical and new data will be loaded and retrieved from the RIDMS throughout the

investigation using Earthsoft's EquiS database and GIS toolkits, and/or customized tools. Prior to loading the initial configuration data, senior IS resources will work with EPA Region 2 to define and implement data management standards and specifications. Documentation of these data management specifications and GIS functions will be prepared in easy-to-understand project instructions.

The database will be used to store, manipulate, and report the sampling and analytical data. The database's two main components, chemistry and geology, are linked together to provide an overall view of the data relationships. The data within the database will be electronically exported to a suite of standard data evaluation and display software applications. The EquiS database and GIS toolkits, and/or customized tools will be used to generate the risk assessment tables, boring logs, tabular data, and through interfaces to GIS and other applications, contour maps and site figures.

The database must be protected from unauthorized access, tampering, accidental deletions or additions, and data or program loss that can result from power outages or hardware failure. The following procedures will be adopted to ensure this protection:

- The master database will be stored on CH2M HILL's local area network (LAN) file server. Daily backups (to the extent practicable) will be made of the database to ensure the data will not be lost due to problems with the network.
- The access and security of the database will be centrally managed by the RIDMS System Administrator.
- Access to the data will be controlled through the use of user specific security settings.

2.11.4 Documentation

Documentation of data management activities is critical because it provides:

- A hard copy record of project data management activities
- Reference information critical for database users
- Evidence that the activities have been properly planned, executed, and verified
- Continuity of data management operations when personnel changes occur

This DMP will serve as the initial general documentation of the project data management efforts. Additional documentation will also be maintained to document specific issues such as database structure definitions, database inventories, database maintenance, user requests, database issues and problems, and client contact.

2.11.5 Evidence File

The final evidence file will be the central repository for all documents that constitute evidence relevant to sampling and analysis activities. CH2M HILL is the custodian of the evidence file and maintains the contents of the evidence files, including all relevant records, reports, logs, field logbooks, pictures, contractor reports, and data reviews in a secured, limited access area.

CH2M HILL will keep all records until the project is completed and the Work Assignment is closed out. As necessary, records may be transferred to an offsite record storage facility. The record storage facility must provide secure, access-controlled storage of records. The subcontracted laboratory(ies) will be asked by CH2M HILL to maintain records of raw analytical laboratory data, quality assurance data, and reports for a minimum of ten years.

2.11.6 Presentation of Site Characterization Data

In addition to laboratory data, other physical data will be collected during the field efforts, including (but not limited to) water level data, well construction details, boring logs, and field measurements of pH, conductivity, dissolved oxygen, oxidation reduction potential, and temperature. This information will be stored in the project database. Other types of data elements may be added as the field investigation needs and activities evolve.

Depending on the data user needs, data presentation may consist of, but will not be limited to, any of the following formats:

- Tabulated results of data summaries or raw data
- Figures showing concentration isopleths or location-specific concentrations
- Tables providing statistical evaluation results or calculation results
- Presentation tools such as ARC/INFO or other similar analysis/presentation aids

Assessment / Oversight

3.1 Assessments and Response Actions

Assessment and oversight activities are performed to determine whether the QC measures identified in the FSP and this QAPP are implemented and documented as required. The PM, RIL and the FTL will perform assessment and oversight to check conformance to plans. For example, during a field review, the FSP may be checked to verify that a monitoring well has been correctly sampled or that field QC samples were collected at the appropriate frequency. Additional checks may address the questions:

- Is the FSP being adhered to?
- Is nonconformance being identified, resolved, and documented with a process or system?
- Are identified deficiencies being corrected?
- Are sampling operations being performed as stated in the FSP?
- Are the sample labels being filled out completely and accurately?
- Are the COC forms complete and accurate?
- Are the field logbooks being filled out completely and accurately?
- Are the documents generated during assessment activities being stored as described in the QAPP?

The need for a check can be determined independently by the PM or assigned by the PM to another team member. Assessment activities may include surveillance, inspection, peer review, management system review, performance evaluation, and data quality assessment. The results of the assessment and oversight activities will be reported to the PM or RIL, who will be responsible for ensuring that the corrective action response is completed, verified, and documented.

3.2 Reports to Management

CH2M HILL will provide status reports to EPA's management that will, at a minimum, discuss current activities, problems encountered and their resolution, and planned work. Written monthly status reports will be provided and supplemented with weekly verbal reports.

The analytical laboratory will provide sample acknowledgment letters and sample status updates by phone or e-mail to the EPA RSCC or CH2M HILL. These requirements will be specified in each laboratory SOW or the most recent CLP SOW.

Data Validation and Usability

4.1 Data Review, Validation, and Evaluation Requirements

Data validation is the process by which data generated in support of a project are reviewed against the project's QA/QC requirements. The data are evaluated for precision and accuracy against the analytical protocol requirements. Nonconformance or deficiencies that could affect the precision or accuracy of the reported result are identified and noted. The effect on the result is then considered when assessing whether the result is sufficient to achieve DQOs.

Data validation of CLP analytical results will be performed by EPA and reported in final form to CH2M HILL. The non-CLP analytical data will be validated by a CH2M HILL subcontractor.

4.1.1 Precision

Precision is a measure of the agreement or repeatability of a set of replicate results obtained from duplicate analyses made under identical conditions. Precision is estimated from analytical data and cannot be measured directly. The precision of a duplicate determination can be expressed as the relative percent difference (RPD), as calculated as

$$RPD = \{(|X_1 - X_2|) / (X_1 + X_2) / 2\} \times 100 = \left\{ \frac{|X_1 - X_2|}{\frac{(X_1 + X_2)}{2}} \right\} \times 100$$

where X_1 is the result from the investigative sample, and X_2 is the result from the duplicate sample. The field duplicate precision criteria are described in Section 2.6 and Attachment 1 to this QAPP.

4.1.2 Accuracy

Accuracy is a measure of the agreement between an experimental determination and the true value of the parameter being measured. Accuracy is estimated through the use of known reference materials or matrix spikes. It is calculated from analytical data and is not measured directly. Spiking of reference materials into a sample matrix is the preferred technique because it provides a measure of the matrix effects on analytical accuracy. Accuracy, defined as percent recovery (P), is calculated as

$$P = \left[\frac{(SSR - SR)}{SA} \right] \times 100$$

where SSR is the spiked sample result, SR the sample result (investigative), and SA the spike concentration added to the spiked sample. The criteria for matrix spike/matrix spike duplicate recoveries are presented in Attachment 1.

4.1.3 Completeness

Completeness of the field- and laboratory-generated analytical data will be assessed for compliance with the amount of data required for decision making. The calculation for determining completeness is

$$\% \text{ Completeness} = \frac{\text{Valid Data Obtained}}{\text{Total Data Obtained}} \times 100$$

The completeness goal for the project data is 95 percent. Qualified data, if not rejected, can still be used to make project decisions and be considered valid data.

4.1.4 Sensitivity

Sensitivity is establishing method detection limits (MDLs) at sufficient levels so that the project DQOs are met and maintained. The sensitivity of the instruments will be monitored so that the data quality requirements of the risk assessments are met.

4.2 Validation and Verification Methods

The data validation process is conducted to assess the effect of the overall sampling and analysis process on the usability of the data. There are two areas of review: laboratory performance evaluation, and the effect of matrix and sampling interference. Evaluation of laboratory performance is a check for compliance with the method requirements and is a straightforward examination. The laboratory either did or did not analyze the samples within the QC limits of the analytical method and according to protocol requirements. The assessment of potential matrix and sampling affects consists of a QC evaluation of the analytical results and also the results of testing blank, duplicate, and matrix spike samples, and then assessing how, if at all, this could affect the usability of the data.

All analytical data will be supported by a data package. The data package will contain the supporting QC data for the associated field samples (see Section 1.7 of this QAPP for the data package content requirements). Before the laboratory will release each data package, the laboratory QA officer (or the analytical section supervisor) must carefully review the sample and laboratory performance QC data to verify sample identity, the completeness and accuracy of the sample and QC data, and compliance with method specifications.

Data validation will be performed for CLP-laboratory generated data by EPA in a manner consistent with EPA's *Laboratory Data Validation Functional Guidelines for Evaluating Data Quality*. Data validation will be performed for non-CLP generated data by CH2M HILL's subcontractor using the *Laboratory Data Validation Functional Guidelines for Evaluating Data Quality* as a template. When EPA Region 2 Data Validation SOP is not available to perform data validation, CH2M HILL will use the quality control criteria that are stated in the analytical method. The sample results will then be assigned a degree of usability based upon overall data quality.

The CH2M HILL project team will evaluate the data validation results. This evaluation will assess how the data, as qualified by the data validation, can be used on the project.

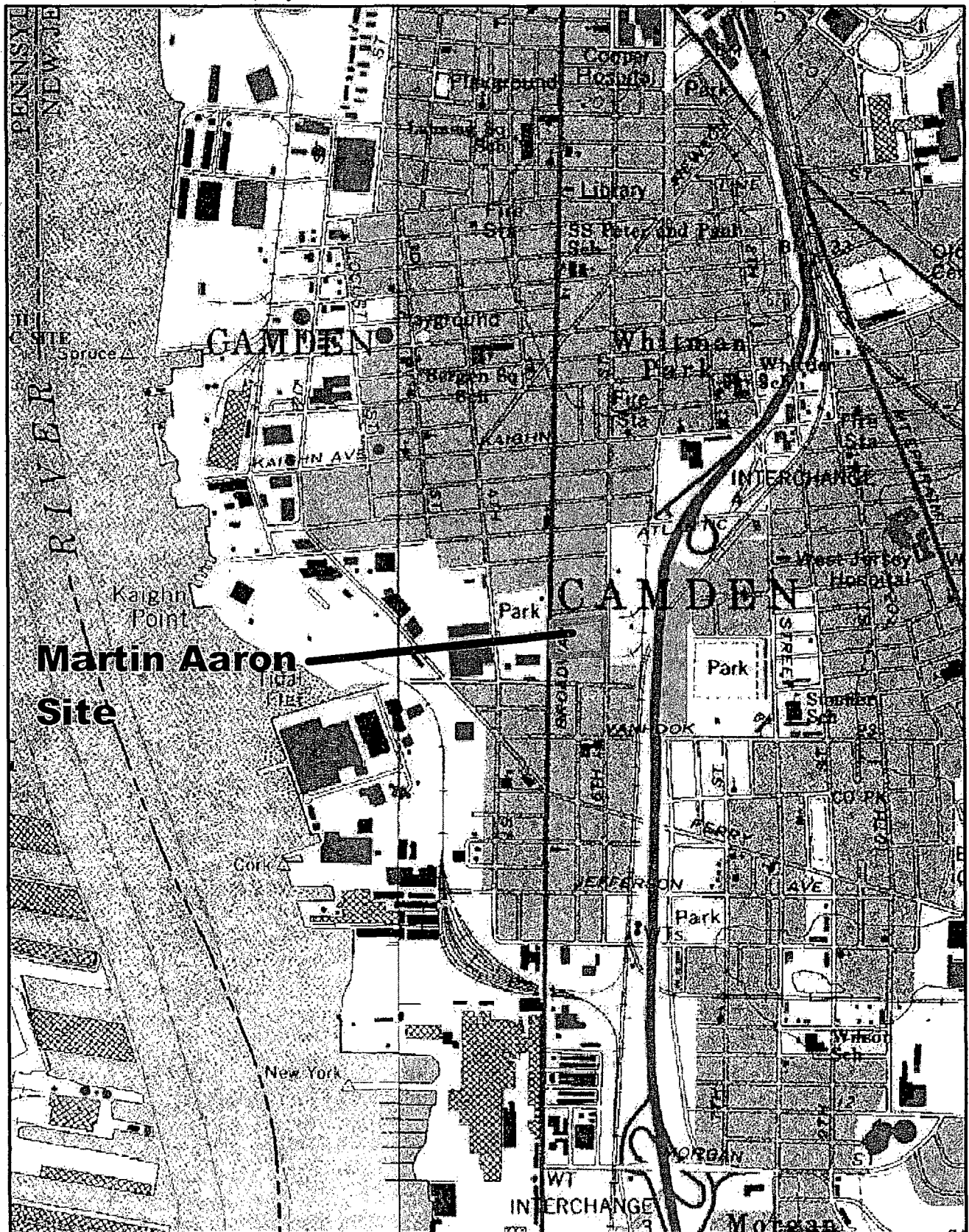
The data will be verified by comparing tabulated field measurements with sample logbooks and COC forms to assess if the correct analyses were performed on the samples. Printouts of electronic data reports will also be compared with hardcopy reports to assess the accuracy of the project database.

When an EPA Region 2 Data Validation SOP is not available to perform data validation, the reviewer should use the quality control criteria that are stated in the analytical method.

4.3 Reconciliation with Data Quality Objectives

The final activity of the data validation process is to assess whether or not the data fulfilled the planned objectives for the project. The final results, as adjusted for the findings of any data validation/data evaluation, will be checked against the DQOs. The data acquired from the additional site investigation should fulfill the project objective, which is to obtain data on the nature and extent of site-related contaminants and determine whether the site presents a risk to human health or the surrounding environment, and if so, what are the best alternatives for remedying it. The main project objective should be met assuming the 95% data completeness goal is obtained after all of the data has undergone sufficient data validation. If the main project objective is not met, future data collection will be required and implemented accordingly. If the data, after validation and evaluation, are sufficient to achieve project objectives, the data quality and project managers will release the data and work may proceed.

Figures



 Site Boundary

Source: USGS 7.5 Min. Quad, Camden NJ
and Philadelphia PA, Photorevised 1998
Downloaded from terraserver.com

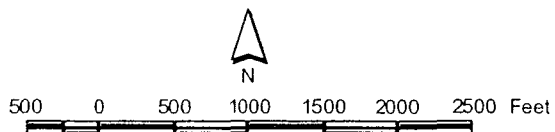


Figure 1-1
Site Location Map

Martin Aaron Site
RI/FS Investigation

CH2MHILL

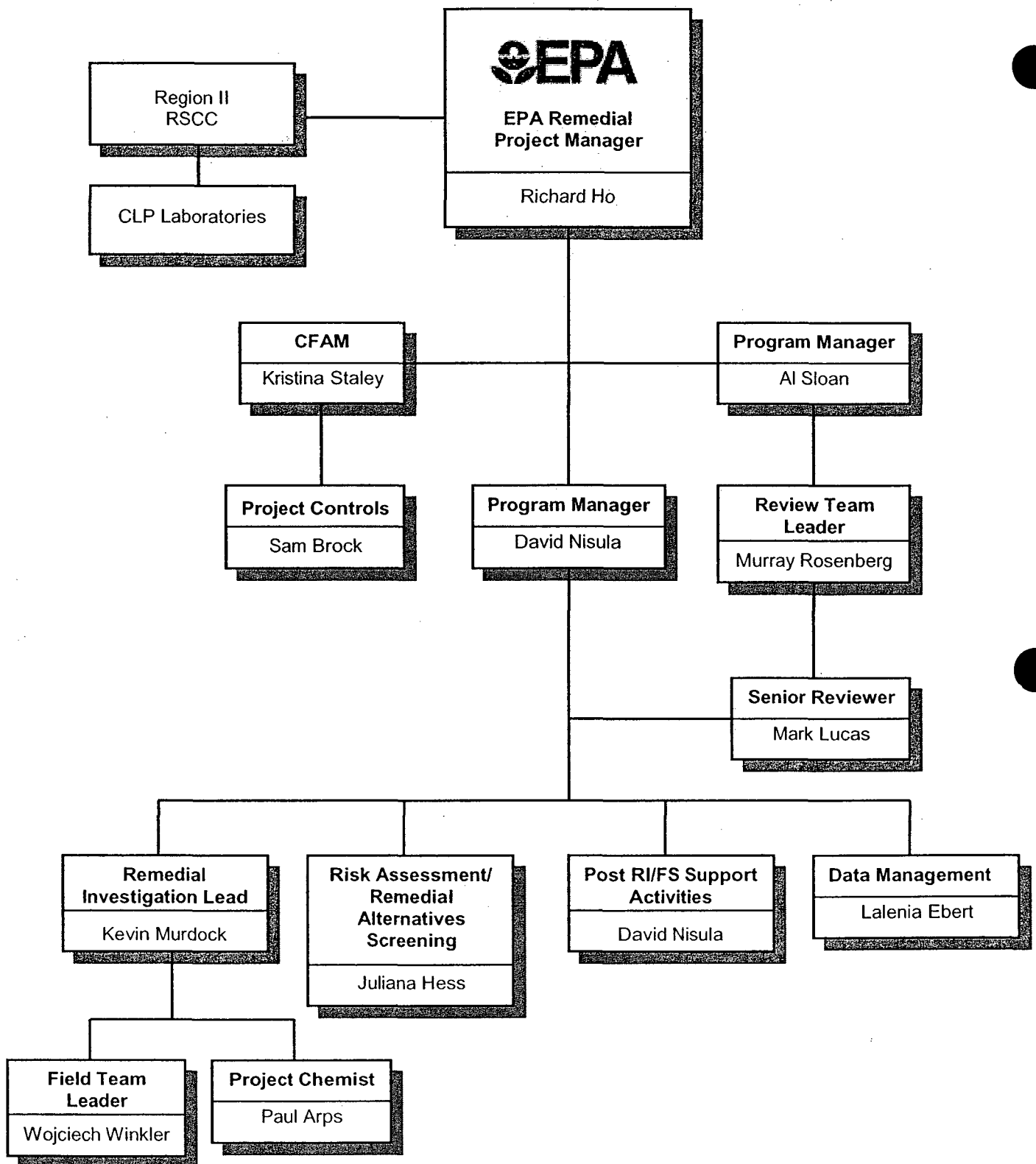


FIGURE 1-2
Organizational Chart
Martin Aaron RI/FS

Attachment 1

QC Requirements for Field Samples

ATTACHMENT 1
QA Criteria for Martin Aaron Field Sampling

Parameter	Matrix	Method	Units	Field Duplicate Precision	MS/MSD Accuracy/Precision	LCS Accuracy	Completeness	Blanks
VOCs	Soil	OLM04.2	ug/kg	Analytical: Per CLP SOW Sampling: +- 30%	Per CLP SOW	Per CLP SOW	95%	Per CLP SO
SVOCs	Soil	OLM04.2	ug/kg	Analytical: Per CLP SOW Sampling: +- 30%	Per CLP SOW	Per CLP SOW	95%	Per CLP SO
Metals	Soil	ILM04.1	mg/kg	Analytical: Per CLP SOW Sampling: +- 30%	Per CLP SOW	Per CLP SOW	95%	Per CLP SO
Pesticides/PCBs	Soil	OLM04.2	ug/kg	Analytical: Per CLP SOW Sampling: +- 30%	Per CLP SOW	Per CLP SOW	95%	Per CLP SO
TOC	Soil	Walkley-Black Method	mg/kg	+- 30%	75-125% / 20%	80 - 120%	95%	< RL
Porosity	Soil	ASTM D4404-84	%	NA	NA	NA	95%	NA
Moisture Content	Soil	EPA 160.3	%	+-30%	NA	NA	95%	NA
pH	Soil	SW-846 9045	NA	+- 30%	NA	NA	95%	NA
Grain Size	Soil	ASTM D422	%	NA	NA	NA	95%	NA
Bulk Density	Soil	ASTM D2937-94	Lbm/ft3	NA	NA	NA	95%	NA

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ATTACHMENT 1

QA Criteria for Martin Aaron Field Sampling

Parameter	Matrix	Method	Units	Field Duplicate Precision	MS/MSD Accuracy/Precision	LCS Accuracy	Completeness	Blanks
VOCs	Groundwater	OLCO3.2	ug/L	Analytical: Per CLP SOW Sampling: +- 20%	Per CLP SOW	Per CLP SOW	95%	Per CLP SO
SVOCs	Groundwater	OLCO3.2	ug/L	Analytical: Per CLP SOW Sampling: +- 20%	Per CLP SOW	Per CLP SOW	95%	Per CLP SO
Metals-total and dissolved	Groundwater	ILM04.1	ug/L	Analytical: Per CLP SOW Sampling: +- 20%	Per CLP SOW	Per CLP SOW	95%	Per CLP SO
Sulfate	Groundwater	EPA 375.4	mg/L	+- 20%	75-125% / 20%	80 - 120%	95%	< RL
Sulfide	Groundwater	EPA 376.1	mg/L	+- 20%	75-125% / 20%	80 - 120%	95%	< RL
Nitrate	Groundwater	EPA 352.1	mg/L	+- 20%	75-125% / 20%	80 - 120%	95%	< RL
Chloride	Groundwater	EPA 300.0	mg/L	+- 20%	75-125% / 20%	80 - 120%	95%	< RL
Methane/Ethane/ Ethene	Groundwater	RSK-175	ug/L	+- 20%	75-125% / 20%	80 - 120%	95%	< RL
TSS	Groundwater	EPA 160.2	mg/L	+- 20%	75-125% / 20%	80 - 120%	95%	< RL
TDS	Groundwater	EPA 160.1	mg/L	+- 20%	75-125% / 20%	80 - 120%	95%	< RL
Alkalinity	Groundwater	EPA 310.2	mg/L	+- 20%	75-125% / 20%	80 - 120%	95%	< RL
Carbon Dioxide	Groundwater	SM-4500 CO2 D	mg/L	+- 20%	75-125% / 20%	80 - 120%	95%	< RL

ATTACHMENT 1
QA Criteria for Martin Aaron Field Sampling

Parameter	Matrix	Method	Units	Field Duplicate Precision	MS/MSD Accuracy/Precision	LCS Accuracy	Completeness	Blanks
TOC	Groundwater	SW-846 9060	mg/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
Ferrous Iron, Fe(II)	Groundwater	SM 3500-Fe D	mg/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
Hardness	Groundwater	EPA 130.1	mg/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
Total Iron	Groundwater	SW-846 6010B	ug/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
Dissolved Iron	Groundwater	SW-846 6010B	ug/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
Dissolved Arsenic	Groundwater	SW-846 6010B	ug/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
Ammonia	Groundwater	EPA 350.3	mg/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
TKN	Groundwater	EPA 351.3	mg/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
Nitrite	Groundwater	EPA 354.1	mg/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
Calcium	Groundwater	SW-846 6010B	ug/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
Potassium	Groundwater	SW-846 6010B	ug/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
Manganese	Groundwater	SW-846 6010B	ug/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
Phosphorous, Total	Groundwater	EPA 365.2	mg/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
Sodium	Groundwater	SW-846 6010B	ug/L	+ 20%	75-125% / 20%	80 – 120%	95%	< RL
BOD	Groundwater	EPA 405.1	mg/L	+ 20%	NA	NA	95%	< RL
COD	Groundwater	EPA 410.1	mg/L	+ 20%	NA	NA	95%	< RL
SVOCs	Building Wipes	SW-846 8270	ug/kg	+ 30%	NA	NA	95%	< RL
Pesticides/PCBs	Building Wipes	SW-846 8081	ug/kg	+30%	NA	NA	95%	< RL

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ATTACHMENT 1
QA Criteria for Martin Aaron Field Sampling

Parameter	Matrix	Method	Units	Field Duplicate Precision	MS/MSD Accuracy/Precision	LCS Accuracy	Completeness	Blanks
SVOCs	Building Chips	SW-846 8270	ug/kg	+ 30%	NA	NA	95%	< RL
Pesticides/PCBs	Building Chips	SW-846 9091	ug/kg	+ 30%	NA	NA	95%	< RL
Metals	Building Chips	SW-846 6010B	ug/kg	+ 30%	NA	NA	95%	< RL
TCLP VOCs	IDW	SW-846 8260B	ug/L	+ 20%	75 - 125% / 20%	80 - 120%	95%	< RL
TCLP SVOCs	IDW	SW-846 8270C	ug/L	+ 20%	75 - 125% / 20%	80 - 120%	95%	< RL
TCLP Pesticides/PCBs	IDW	SW-846 8081	ug/L	+ 20%	75 - 125% / 20%	80 - 120%	95%	< RL
TCLP Metals	IDW	SW-846 6010B or 7000 series	ug/L	+ 20%	75 - 125% / 20%	80 - 120%	95%	< RL
TCL VOCs	IDW	OLC03.2	ug/L	Analytical: Per CLP SOW Sampling: +- 20%	Per CLP SOW	Per CLP SOW	95%	Per CLP SO
TCL SVOCs	IDW	OCL03.2	ug/L	Analytical: Per CLP SOW Sampling: +- 20%	Per CLP SOW	Per CLP SOW	95%	Per CLP SO
TCL Pesticides/PCBs	IDW	OCL03.2	ug/L	Analytical: Per CLP SOW Sampling: +- 20%	Per CLP SOW	Per CLP SOW	95%	Per CLP SO
TAL Metals	IDW	ILM04.1	ug/L	Analytical: Per CLP SOW	Per CLP SOW	Per CLP SOW	95%	Per CLP SO

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ATTACHMENT 1
QA Criteria for Martin Aaron Field Sampling

Parameter	Matrix	Method	Units	Field Duplicate Precision	MS/MSD Accuracy/Precision	LCS Accuracy	Completeness	Blanks
				Sampling: +- 20%				

TCLP = Toxicity Characteristic Leachate Procedure

TCL = Target Compound List

TAL = Target Analyte List

VOCs = Volatile Organic Compounds

SVOCs = Semivolatile Organic Compounds

CLP SOW = Contract Laboratory Program Statement of Work

NA = Not Applicable

The precision, accuracy and sensitivity for the field parameters are based on performance of the multimeter

Attachment 2
New Jersey Specific Groundwater Quality Criteria
and Soil Cleanup Criteria

NJ Groundwater Quality Standards Table 1

Page 1 of 7

[DWM Homepage](#) > [Programs](#) > [Ground Water Quality Standards](#) > [Table 2](#)Division of
Watershed
Management[Bureaus](#)[Calendar](#)[Publications](#)[Basic
Info](#)[Hot
Topics](#)[Photos](#)[Contacts](#)[Links](#)[Search](#)[Surf Your
Watershed](#)[Maps](#)

Ground Water Quality Standards N.J.A.C. 7:9-6

TABLE 1

Specific Ground Water Quality Criteria -IIA and Practical Quantitation Levels

Constituent	CASRN	Ground Water Quality Criteria *	Practical Quantitation Levels (PQLs)	Higher of PQLs and Ground Water Quality Criteria *
Acenaphthene	83-32-9	400	10	400
Acenaphthylene	208-96-8	NA	10	NA
Acetone	67-64-1	700	NA	700
Acrolein	107-02-8	NA	50	NA
Acrylamide	79-06-1	0.008	NA	0.008
Acrylonitrile	107-13-1	0.06	50	50
Adipates (Di(ethylhexyl)adipate)	103-23-1	NA	6	NA
Alachlor	15972-60-8	0.43	2	2
Aldicarb sulfone	1646-88-4	2	3	3
Aldrin	309-00-2	0.002	0.04	0.04
Aluminum	7429-90-5	200	200	200
Ammonia		500	200	500
Anthracene	120-12-7	2000	10	2000
Antimony	7440-36-0	2	20	20
Arsenic (Total)	7440-38-2	0.02	8	8
Asbestos	1332-21-4	$7 \times 10^6 \text{ f/L} > 10 \mu\text{m}^a$	$10^5 \text{ f/L} > 10 \mu\text{m}^a$	$7 \times 10^6 \text{ f/L} > 10 \mu\text{m}^a$

NJ Groundwater Quality Standards Table 1

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Atrazine	1912-24-9	3	1	3
Barium	7440-39-3	2,000	200	2000
Benz(a)anthracene	56-55-3	NA	10	NA
Benzene	71-43-2	0.2	1	1
Benzidine	92-87-5	0.0002	50	50
Benzyl Alcohol	100-51-6	2000	NA	2000
Benzo(a)pyrene (BaP)	50-32-8	NA	20	NA
3,4-Benzofluoranthene (Benzo(b)fluoranthene)	205-99-2	NA	10	NA
Benzo(ghi)perylene	191-24-2	NA	20	NA
Benzo(k)fluoranthene	207-08-9	NA	2	NA
Beryllium	7440-41-7	0.008	20	20
alpha-BHC (alpha-HCH)	319-84-6	0.006	0.02	0.02
beta-BHC (beta-HCH)	319-85-7	0.2	0.04	0.2
gamma-BHC (gamma-HCH/Lindane)	58-89-9	0.2	0.2	0.2
Bis(2-chloroethyl) ether	111-44-4	0.03	10	10
Bis(2-chloroisopropyl) ether	39638-32-9	300	10	300
Bis(2-ethylhexyl) phthalate	117-81-7	3	30	30
Bromodichloromethane (Dichlorobromomethane)	75-27-4	0.3	1	1
Bromoform	75-25-2	4	0.8	4
Butylbenzyl phthalate	85-68-7	100	20	100
Cadmium	7440-43-9	4	2	4
Carbofuran	1563-66-2	40	7	40
Carbon tetrachloride	56-23-5	0.4	2	2
Chlorobenzene	108-90-7	4	2	4
Chlordane	57-74-9	0.01	0.5	0.5
Chloride	16887-00-6	250,000	2000	250,000
Chloroform	67-66-3	6	1	6

NJ Groundwater Quality Standards Table 1

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4-Chloro-3-methyl (o-chloro-m-cresol)	59-50-7	NA	20	NA
2-Chlorophenol	95-57-8	40	20	40
Chlorpyrifos	2921-88-2	20	0.2	20
Chromium (Total)	7440-47-3	100	10	100
Chrysene	218-01-9	NA	20	NA
Color		10 CU	20 CU	20 CU
Copper	7440-50-8	1,000	1,000	1,000
Cyanide	57-12-5	200	40	200
2,4-D	94-75-7	70	5	70
Dalapon	75-99-0	200	10	200
4,4'-DDD (p,p'-TDE)	72-54-8	0.1	0.04	0.1
4,4'-DDE	72-55-9	0.1	0.04	0.1
4,4'-DDT	50-29-3	0.1	0.06	0.1
Demeton	8065-48-3	0.3	NA	0.3
Dibenz(a,h)anthracene	53-70-3	NA	20	NA
Dibromochloromethane (Chlorodibromomethane)	124-48-1	10	1	10
1,2-Dibromo-3- chloropropane (DBCP)	96-12-8	NA	2	NA
Di-n-butyl phthalate	84-74-2	900	20	900
1,2-Dichlorobenzene	95-50-1	600	5	600
1,3-Dichlorobenzene	541-73-1	600	5	600
1,4-Dichlorobenzene	106-46-7	75	5	75
3,3'-Dichlorobenzidine	91-94-1	0.08	60	60
1,1-Dichloroethane	75-34-3	70	NA	70
1,2-Dichloroethane	107-06-2	0.3	2	2
1,1-Dichloroethylene	75-35-4	1	2	2
cis-1,2-Dichloroethylene	56-59-2	10	2	10
trans-1,2-Dichloroethylene	156-60-5	100	2	100
2,4-Dichlorophenol	120-83-2	20	10	20
1,2-Dichloropropane	78-87-5	0.5	1	1

NJ Groundwater Quality Standards Table 1

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cis-1,3-Dichloropropene	10061-01-5	NA	5	NA
trans-1,3Dichloropropene	10061-02-6	NA	7	NA
1,3-Dichloropropene (cis and trans)	542-75-6	0.2	NA	.02
Dieldrin	60-57-1	0.002	0.03	0.03
Diethyl phthalate	84-66-2	5,000	10	5,000
2,4-Dimethylphenol	105-67-9	100	20	100
Dimethyl phthalate	131-11-3		10	
4,6-Dinitro-o-cresol	534-52-1	NA	60	NA
2,4-Dinitrophenol	51-28-5	10	40	40
2,4-Dinitrotoluene	121-14-2	0.05	10	10
/2,6-Dinitrotoluene mixture				
2,6-Dinitrotoluene	606-20-2	NA	10	NA
Di-n-octyl phthalate	117-84-0	100	NA	100
Dinoseb	88-85-7	7	2	7
1,2-Diphenylhydrazine	122-66-7	0.04	NA	0.04
Diquat	85-00-7	20	NA	20
Endosulfan	115-29-7	0.4	NA	0.4
alpha-Endosulfan (Endosulfan I)	959-98-8	0.4	0.02	0.4
beta-Endosulfan (EndosulfanII)	33213-65-9	0.4	0.04	0.4
Endosulfan sulfate	1031-07-8	0.4	0.08	0.4
Endothall	145-73-3	100	NA	100
Endrin	72-20-8	2	0.04	2
Epichlorohydrin	106-89-8	4	NA	4
Ethylbenzene	100-41-4	700	5	700
Ethylene dibromide	106-93-4	0.0004	0.05	0.05
Fluoranthene	206-44-0	300	10	300
Fluorene	86-73-7	300	10	300
Fluoride	16984-48-8	2000	500	2000
Foaming agents (ABS/LAS)		500	0.5	500
Glyphosate	1071-83-6	700	NA	700

NJ Groundwater Quality Standards Table 1

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Hardness (as CaCO ₃)		250mg/L	10 mg/L	250 mg/L
Heptachlor	76-44-8	0.008	0.4	0.4
Heptachlor epoxide	1024-57-3	0.004	0.2	0.2
Hexachlorobenzene	118-74-1	0.02	10	10
Hexachlorobutadiene	87-68-3	1	1	1
Hexachlorocyclopentadiene	77-47-4	50	10	50
Hexachloroethane	67-72-1	0.7	10	10
Hydrogen sulfide	7783-06-4	20	NA	20
Indeno(1,2,3-cd)pyrene	193-39-5	NA	20	NA
Iron	7439-89-6	300	100	300
Isophorone	78-59-1	100	10	100
Lead (Total)	7439-92-1	5	10	10
Malathion	121-75-5	200	5	200
Manganese	7439-96-5	50	6	50
Mercury (Total)	7439-97-6	2	0.5	2
Methoxychlor	72-43-5	40	10	40
Methyl bromide (bromomethane)	74-83-9	10	2	10
Methyl chloride (chloromethane)	74-87-3	30	2	30
Methyl ethyl ketone	78-93-3	300	NA	300
3-Methyl-4-chlorophenol	59-50-7	NA	20	NA
Methylene chloride	75-09-2	2	2	2
4-Methyl-2-pentanone	108-10-1	400	NA	400
Mirex	2385-85-5	0.01	NA	0.01
Nickel (Soluble salts)	7440-02-0	100	10	100
Nitrate (as N)	14797-55-8	10,000	400	10,000
Nitrate and Nitrite (as N)	10,000	NA	10,000	
Nitrite (as N)	14797-65-0	1,000	400	1,000
Nitrobenzene	98-95-3	3	10	10
N-Nitrosodimethylamine	62-75-9	0.0007	20	20
N-Nitrosodiphenylamine	86-30-6	7	20	20
N-Nitrosodi-n-propylamine	621-64-7	0.005	20	20

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Odor		3 ^b	NA	3 ^b
Oil & Grease and Petroleum Hydrocarbons (PHC)		None Noticeable	NA	None Noticeable
Oxamyl	23135-22-0	200	20	200
PCBs (Polychlorinated biphenyls)	1336-36-3	0.02	0.5	0.5
Pentachlorophenol	87-86-5	0.3	1	1
pH		6.5-8.5	NA	6.5-8.5
Phenanthrene	85-01-8	NA	10	NA
Phenol	108-95-2	4000	10	4000
Picloram	1918-02-1	500	1	500
Pyrene	129-00-0	200	20	200
Selenium (Total)	7782-49-2	50	10	50
Silver	7440-22-4	NA	2	NA
Simazine	122-34-9	1	0.8	1
Sodium	7440-23-5	50,000	400	50,000
Styrene	100-42-5	100	5	100
Sulfate	14808-79-8	250,000	5000	250,000
Taste		None Objectionable	NA	None Objectionable
TCDD (2,3,7,8- Tetrachlorodibenzo -p- dioxin)	1746-01-6	0.0000002	0.01	0.01
1,1,1,2-Tetrachloroethane	630-20-6	10	NA	10
1,1,2,2-Tetrachloroethane	79-34-5	2	1	2
Tetrachloroethylene	127-18-4	0.4	1	1
2,3,4,6-Tetrachlorophenol	58-90-2	NA	10	NA
Thallium	7440-28-0	0.5	10	10
Toluene	108-88-3	1,000	5	1000
Total dissolved solids (TDS)	500,000	10,000	500,000	
Toxaphene	8001-35-2	0.03	3	3
2,4,5-TP	93-72-1	50	5	50

NJ Groundwater Quality Standards Table 1

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1,2,4-Trichlorobenzene	120-82-1	9	1	9
1,1,1-Trichloroethane	71-55-6	30	1	30
1,1,2-Trichloroethane	79-00-5	3	2	3
Trichloroethylene	79-01-6	1	1	1
2,4,5-Trichlorophenol	95-95-4	700	10	700
2,4,6-Trichlorophenol	88-06-2	3	20	20
Vinylchloride	75-01-4	0.08	5	5
Xylenes (Total)	1330-20-7	40	2	40
m&p-Xylenes	NA	NA	2	NA
o-Xylene	NA	NA	1	NA
Zinc	7440-66-6	5,000	30	5000
Microbiological criteria ^m , Radionuclides & Turbidity		prevailing Safe Drinking Water Act Regulations (N.J.A.C. 7:10-1 et seq.)		

Explanation of Terms:

* = Ground Water Quality Criteria and PQLs are expressed as ug/L unless otherwise noted.
Table 1 criteria are all maximum values unless clearly indicated as a range for which the minimum value is to the left and the maximum value is to the right.

PQL -- Practical Quantitation Level as defined in N.J.A.C. 7:9-6.4

CASRN - Chemical Abstracts System Registration Number

NA = not available for this constituent.

a = Asbestos criterion is measured in terms of fibers/L longer than 10 micrometers (f/L > 10 um)

ug = micrograms, L = liter, f = fibers, CU= Standard Cobalt Units

b = Odor Threshold Number, mg = milligrams, H = Hardness

(Total) means the concentration of metal in an unfiltered sample following treatment with hot dilute mineral acid (as defined in "Methods for Chemical Analysis of Water & Wastes", EPA-600/4-79-020, March 1979) or other digestion defined by the analytical method. However samples that contain less than 1 nephelometric turbidity unit (NTU) and are properly preserved, may be directly analyzed without digestion.

m = Pursuant to prevailing Safe Drinking Water Act Regulations any positive result for fecal coliform is in violation of the MCL and is therefore an exceedance of the ground water quality standards.

SOIL CLEANUP CRITERIA (mg/kg)

(LAST REVISED - 5/12/99)

This listing represents the combination of Tables 3-2 and 7-1 from the Department of Environmental Protection and Energy's February 3, 1992 proposed rule entitled Cleanup Standards for Contaminated Sites, N.J.A.C. 7:26D, as corrected based upon errors identified by the Department during or subsequent to the comment period as well as new toxicological or other information obtained since the rule proposal. Please refer to the respective footnotes for more detail. Notwithstanding, where the following criteria are based on human health impacts, the Department shall still consider environmental impacts when establishing site specific cleanup criteria. This along with other site-specific factors including background conditions may result in site specific cleanup criteria which differ from the criteria listed below. Therefore, this list shall not be assumed to represent approval by the Department of any remedial action or to represent the Department's opinion that a site requires remediation.

Note: Material bracketed [thus] is deleted and material underlined thus is added

Contaminant	CASRN	Residential Direct Contact Soil Cleanup Criteria (a) (b)	Non- Residential Direct Contact Soil Cleanup Criteria (a) (b)	Impact to Ground water Soil Cleanup Criteria (b)
		(RDCSCC)	(NRDCSCC)	(IGWSCC)
Acenaphthene	83-32-9	3400	10000(c)	100
Acetone (2-propanone)	67-64-1	1000(d)	1000(d)	100
Acrylonitrile	107-13-1	1	5	1
Aldrin	369-09-2	0.040	0.17	50
Anthracene	120-12-7	1000(c)	10000(c)	100
Artifony	7440-38-2	20	340	(h)
Arsenic	7440-38-2	20 (e)	20 (e)	(h)
Barium	7440-39-3	700	47000(n)	(h)
Benzene	71-43-2	3	13	1
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	207-08-9	0.9	4	500
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-5	0.9	4	500
Benzo(a)pyrene (BaP)	50-32-8	0.66(f)	0.66(f)	100
Benzo(k)fluoranthene	207-08-9	0.9	4	500
Benzyl Alcohol	100-51-6	10000(c)	10000(c)	50
Beryllium	7440-41-7	[1(f)] <u>2 (e)</u>	[1(f)] <u>2 (e)</u>	(h)
Bis(2-chloroethyl) ether	111-44-3	10.66(n)	2.1	10

SOIL CLEANUP CRITERIA (mg/kg)
(LAST REVISED - 5/12/99)

Contaminant	CASRN	(RDCSCC)	(NRDCSCC)	(IGWSCC)
Bis(2-chloroisopropyl)ether	108-60-1	2300	10000 (g)	10
Bis(2-ethylhexyl) phthalate	117-81-7	40	210	100
Bromodichloromethane (Dichlorobromomethane)	75-27-4	11	46	1
Bromoform	75-25-2	86	370	1
Bromomethane (Methyl bromide)	74-83-9	79	1000 (d)	1
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	900 (d)	1000 (d)	50
Butylbenzyl phthalate	85-68-7	5100	10000 (d)	100
Cadmium	7440-439	11.39	100	(h)
Carbon tetrachloride	56-23-5	2 (k)	4 (k)	1
4-Chloroaniline (p-Chloroaniline)	106-47-8	230	4200	(r)
Chlorobenzene	108-90-7	37	680	1
Chloroform	67-66-3	79 (b)	28 (b)	1
4-Chloro-3-methyl phenol (p-Chloro-m-cresol)	69-50-7	10000 (d)	10000 (d)	100
Chloromethane (Methyl chloride)	74-87-3	520	1000 (d)	10
2-Chlorophenol (o-Chlorophenol)	95-57-8	280	5200	10
Chromium - hexavalent (VI)	18540-29-9	<u>240; 270 (g); (i)</u>	<u>6100; 20 (g); (i)</u>	<u>(h)</u>
Chromium - trivalent (III)	16065-83-1	<u>120,000</u>	<u>(i)</u>	<u>(i)</u>
Chrysene	218-01-1	9	40	500
Copper	7440-50-8	600 (m)	600 (m)	(h)
Cyanide	57-12-5	1100	21000 (d)	(h)
4,4'-DDD (p,p'-TDE)	72-54-8	3	12	50
4,4'-DDE (p,p'-DDX)	72-55-9	2	9	50
4,4'-DDT	50-29-3	2	9	500
Dibenz(a,h)anthracene	53-70-3	0.66 (b)	0.56 (b)	100
Dibromodichloromethane/Chlorodibromomethane	128-18-1	40	1000 (d)	1
Di-n-butyl phthalate	84-74-2	5700	10000 (c)	100
Di-n-octyl phthalate	117-84-0	1100	10000 (c)	100
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5100	10000 (c)	50
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5100	10000 (c)	100

SOIL CLEANUP CRITERIA (mg/kg)
(LAST REVISED - 5/12/99)

Contaminant	CASRN	(RDCSCC)	(NRDCSCC)	(IGWSCC)
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	570	1000 (d)	100
3,3'-Dichlorobenzidine	01-52-1	2	25	100
1,1-Dichloroethane	75-34-3	570	1000 (d)	10
1,2-Dichloroethane	107-06-2	6	24	1
1,1-Dichloroethene	75-35-4	8	150	10
1,2-Dichloroethene (trans)	156-60-5	1000 (d)	1000 (d)	50
1,2-Dichloroethene (cis)	158-59-2	2	1000 (d)	1
2,4-Dichlorophenol	120-85-2	170	3400	10
1,2-Dichloropropane	78-87-5	10	43	(r)
1,3-Dichloropropene(cis and trans)	542-75-6	4	5 (k)	1
Dieldrin	60-57-1	0.042	0.18	50
Diethyl phthalate	84-66-2	6000 (c)	15000 (p)	50
2,4-Dimethylphenol	105-87-9	1100	10000 (c)	10
Dimethyl phthalate	131-11-3	10000 (c)	10000 (c)	50
2,4-Dinitrophenol	51-28-5	110	2100	10
Dinitrotoluene(2,4-/2,6-mixture)	25321-14-6	1 (l)	4 (l)	10 (l)
Endosulfan	115-29-7	340	6200	50
Endrin	72-20-8	17	340	50
Ethylbenzene	100-41-4	1000 (d)	1000 (d)	100
Fluoranthene	206-14-0	2800	10000 (c)	100
Fluorene	86-73-7	2300	10000 (c)	100
Heptachlor	76-44-8	0.15	0.65	50
Hexachlorobenzene	118-74-1	0.66 (f)	2	100
Hexachlorobutadiene	87-58-3	1	25	100
Hexachlorocyclopentadiene	67-47-4	430	7500	100
Hexachloroethane	59-72-1	13	100	100
Indeno(1,2,3-cd)pyrene	193-39-5	0.9	4	500
Isophorone	78-59-1	1100	10000 (c)	50
Lead	7439-92-1	400 (p)	600 (q)	(h)

SOIL CLEANUP CRITERIA (mg/kg)
(LAST REVISED - 5/12/99)

Contaminant	CASRN	(RDCSCC)	(NRDCSCC)	(IGWSCC)
Lindane (gamma BHC) (gamma HCH)	58-89-8	0.52	22	50
2-Methylphenol (o-cresol)	95-48-7	2800	10000 (c)	50
4-Methylphenol (p-cresol)	106-44-5	2800	10000 (c)	(r)
Methoxychlor	72-43-5	280	5200	50
Mercury	7439-97-6	14	270	(h)
4-Methyl-2-pentanone (MIBK)	603-10-1	1000 (f)	1000 (d)	50
Methylene chloride (Dichloromethane)	75-09-2	40	240	1
Naphthalene	91-20-3	250	4200	100
Nickel	7440-02-0	250	2400 (k) (n)	(h)
Nitrobenzene	98-95-3	28	520	10
N-Nitrosodiphenylamine	86-30-6	140	600	100
N-Nitrosodi-n-propylamine	62-184-7	0.65 (f)	0.65 (f)	10
PCBs (Polychlorinated biphenyls)	1228-36-3	0.49	2	50
Pentachlorophenol	87-86-3	8	22	100
Phenol	108-95-2	10000 (c)	10000 (c)	50
Pyrene	129-00-0	1700	10000 (c)	100
Selenium	7782-49-2	63	3100 (n)	(h)
Silver	7440-22-4	110	4100 (n)	(h)
Styrene	100-42-5	23	97	100
1,1,1,2-Tetrachloroethane	630-20-6	175	310	1
1,1,2,2-Tetrachloroethane	79-34-5	34	70 (k)	1
Tetrachloroethene (Tetrachloroethylene) (PCE)	127-18-4	4 (k)	6 (k)	1
Thallium	7440-28-0	2 (f)	2 (f)	(h)
Toxaphene	108-38-0	1000 (d)	1000 (d)	500
Toxaphene	8001-35-2	0.10 (h)	0.25 (d)	50
1,2,4-Trichlorobenzene	120-82-1	88	1200	100
1,1,1-Trichloroethane	71-55-6	210	1000 (d)	50
1,1,2-Trichloroethane	79-00-5	22	420	1
Trichloroethene (Trichloroethylene) (TCE)	79-01-6	23	54 (k)	1

SOIL CLEANUP CRITERIA (mg/kg)
(LAST REVISED - 5/12/99)

Contaminant	CASRN	(RDCSCC)	(NRDCSCC)	(IGWSCC)
2,4,5-Trichlorophenol	85-35-4	5600	10000 (c)	50
2,4,6-Trichlorophenol	88-06-2	52	270	10
Vanadium	7440-62-2	370	7100 (n)	(h)
Vinyl chloride	75-01-4	2	7	10
Xylenes (Total)	830-20-7	410	1050 (g)	100 (s)
Zinc	7440-66-6	1500 (m)	1500 (m)	(r)

Footnotes:

- (a) Criteria are health based using an incidental ingestion exposure pathway except where noted below.
- (b) Criteria are subject to change based on site specific factors (e.g., aquifer classification, soil type, natural background, environmental impacts, etc.).
- (c) Health based criterion exceeds the 10,000 mg/kg maximum for total organic contaminants.
- (d) Health based criterion exceeds the 1000 mg/kg maximum for total volatile organic contaminants.
- (e) Cleanup standard proposal was based on natural background.
- (f) Health based criterion is lower than analytical limits; cleanup criterion based on practical quantitation level.
- (g) Criterion based on the inhalation exposure pathway.
- (h) The impact to ground water values for inorganic constituents will be developed based upon site specific chemical and physical parameters.
- (i) Site specific determination required for SCC for the allergic contact dermatitis exposure pathway.
- (j) Contaminant not regulated for this exposure pathway.
- (k) Criteria based on inhalation exposure pathway, which yielded a more stringent criterion than the incidental ingestion exposure pathway.
- (l) No criterion derived for this contaminant.
- (m) Criterion based on ecological (phytotoxicity) effects.
- (n) Level of the human health based criterion is such that evaluation for potential environmental impacts on a site by site basis is recommended.
- (o) Level of the criterion is such that evaluation for potential acute exposure hazard is recommended.
- (p) Criterion based on the USEPA Integrated Exposure Uptake Biokinetic (IEUBK) model utilizing the default parameters. The concentration is considered to protect 95% of target population (children) at a blood lead level of 10 ug/dl.
- (q) Criteria were derived from a model developed by the Society for Environmental Geochemistry and Health (SEGH) and were designed to be protective for adults in the workplace.
- (r) Insufficient information available to calculate impact to ground water criteria.
- (s) Criterion based on new drinking water standard.

303085

Appendix I

Human Health Risk Assessment

The Human Health Risk Assessment was submitted to the EPA under separate cover on May 14, 2004.

Appendix J

**Screening Level Ecological Risk Assessment
(SLERA)**

The Screening Level Ecological Risk Assessment (SLERA) was submitted to the EPA under separate cover on April 15, 2004.